THE MOTIVES FOR ENTERPRISE SOCIAL NETWORK USAGE AND ITS EFFECT ON EMPLOYEE JOB PERFORMANCE

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The dissertation was submitted in partial fulfillment of the requirements for the degree Masters of Business Administration in Information Technology.

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ABSTRACT

Enterprise Social Networks (ESN) have brought revolutionary changes to business organizations as they offer enormous potential to enhance collaboration, interaction, innovation, and efficiency. However, despite of these benefits many organizations have failed to encourage its employees to actively engage with ESN, making their investment decisions questionable. Therefore, in order to drive employees to use ESN more, it is important to examine what motivate employees to use ESN. Prior literature indicated that the findings were not conclusive in relation to the gratifications/motivations driving the employees to use ESN at work and the effect of ESN use on employee job performance. Therefore, this study focused on examining the motivations to use ESN and the effect of ESN use on employee job performance in terms of both in-role and innovative job performance.

A comprehensive literature review was conducted to identify the gratifications motivating the employees to use ESN. Identification of gratifications for this study was primarily based on the Uses and Gratification theory. Accordingly, information sharing, self-documentation, information seeking, entertainment and social interaction were identified as the gratifications driving the employees to use ESN at work. Based on the literature review, a conceptual framework was developed depicting the relationships between gratifications, ESN use, and employee job performance. This framework led to the development of nine hypotheses. Data were collected from employees in the software industry who use ESN at work, through an online survey-based structured questionnaire. The unit of analysis of the study was individual respondents and data were collected from 146 respondents.

The results revealed that amongst the five gratifications examined in this study, information sharing, self-documentation and social interaction have positive and significant effects on ESN use. It was also confirmed that ESN use has positive and significant effects on aggregate employee job performance as well as on both in-role and innovative job performance.

The findings of the study have both theoretical and practical implications. Because the studies examining the gratifications driving ESN use are scarce, the present study helps to fill the existing knowledge gap in this context. This is especially important in the Sri Lankan context. Further, the study could reveal five gratifications which were cited most by the previous researchers. The finding that ESN use has a positive and significant effect on employee job performance is important from an organizational perspective since they can motivate the employees to use ESN more as it results in better performance of them. Further, the findings can be used by organizations to justify the investments they make on ESN as it translates into better employee job performance.

Keywords: Enterprise social networks, Gratifications, Job performance, In-role job performance, Innovative job performance

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LIST OF ABBREVIATIONS

AVE – Average variance extracted

CB-PLS – Covariance-based structural equation model

E - Entertainment

ESNs - Enterprise Social Networks

HTMT- Heterotrait-monotrait ratio

InP - In-role job performance

IP - Innovative job performance

IS - Information Sharing

JP - Job performance

PLS-SEM- Partial least squares structural equation model

SD - Self-documentation

SEM- Structural equation model

ISe - Information Seeking

SI - Social Interaction

VIF – Variance influence factor

1. INTRODUCTION

1.1. Background

With the competitiveness in the environment, organizations are increasingly investing in creating a corporate culture which enhance communication, employee engagement, employee performance, innovation, experience, and knowledge sharing among employees. To assist organizations in achieving these objectives, a new class of information technology, commonly known as Enterprise Social Networks (ESNs), has gained prominence in contemporary organizations. The widespread adoption of social networking sites such as Facebook, LinkedIn, and Twitter among the individuals prompted organizations to use similar systems within the organizations. Accordingly, organizations created Enterprise Social Networks (ESNs), using social networking platforms, within the corporate realm to improve communication among employees. ESNs are being widely utilized by organizations as a digital platform to facilitate internal communication, social interactions and knowledge sharing within an enterprise. According to Osborne & Hammoud, (2017) disengaged employees typically cost $350 annually. Therefore, the main motive of deploying ESNs is to provide employees with new ways of communication, collaboration, and creation and use knowledge to enhance employee engagement, performance, and knowledge creation within the organization (Osborne and Hammoud, 2017).

There are myriad of benefits that can be realized as a result implementing ESNs within the organization. According to Bond (2016), the use of ESNs helps to optimize employee interactions, enrich existing business processes and workflows, improve collaboration efforts, reduce expenses, reduce email traffics and improve employee engagement, training and retention. Further it facilitates better knowledge management and improved decision making and overall time savings. It was stated that ESNs support value creation by increasing productivity within an organization as it facilitates employee communication and collaboration. Therefore, implementing and adopting ESNs may provide an organization with the opportunity to adopt a unique strategy to gain and sustain competitive advantage (Bond, 2016). A study conducted by Holtzblatt et al. (2013) also revealed several benefits that can be realized with the

usage of ESNs. Supporting team-based collaboration by providing a platform to interact with team members, enabling collective intelligence by facilitating bottom-up development and accumulation of new knowledge, strengthening social connections by improving informal, in-person meeting opportunities, and facilitating knowledge management by providing a preferred place for consolidating and organizing knowledge are some of the benefits that can be derived through ESNs. Holtzblatt et al. emphasized that ESNs further foster situation awareness by assisting employees to monitor what is happening around them and enhance measurable business value by providing the quantifiable benefits.

1.2. Research Problem

Adoption of the ESNs can bring variety of benefits and opportunities to the organization. Enterprise performance and success are increasingly dependent on the efficiency and quality of internal social interaction platform. However, despite of the high level of proliferation, many organizations have failed to successfully implement ESNs within the organization and to encourage the adoption of ESNs among the workforce (Alarifi, 2016). Recent studies have predicted that 80% of ESN initiatives may fail to leverage and materialize the intended benefits due to underutilization and lack of adoption (Mann et al. 2012 cited in Chin et al., 2015) According to Liu & Bakici (2019), majority of the ESNs implementation project fail during first six months of the implementation. They identified a possible reason for failure as only a few employees actively use ESNs by accessing and sharing contents. They also stated that the business value of ESNs cannot be realized without active employee engagement. In order to increase employees' active usage of ESNs, it is essential to identify different motives driving employees to use ESNs. Even though this motivation effect has been examined in relation to the other communication media limited studies has been conducted in identifying these motivations to use in relation the ESNs. Further when examining the limited literature relevant to ESN use the findings were identified to the inconsistent. The studies have different types of motivations influence on ESN usage and certain motivations that were identified as significant in certain contexts were found to be inconsistent in other contexts. Therefore, there is a real practical and knowledge gap that need to be further explored.

Secondly Employee use of ESNs and their impact employee job performance have recently become hot academic topics. Even though the related work identifies the effect of ESNs use on knowledge sharing (Azaizah et al., 2018; Sun et al., 2019), employee performance (Kuegler et al., 2015; Moqbel et al., 2017), and employee engagement (Sharma & Bhatnagar, 2016; Sankaran et al., 2017) only a few of the researchers have attempted to identify the effect of ESN usage on employee job performance.

Moreover, the previous literature reveals mixed views on the relationship between ESN usage and employee job performance. While few empirical studies have supported that ESN usage can positively impact on performance outcomes (Kuegler et al., 2015; Moqbel et al., 2017) several studies have revealed that ESN usage creates negative influence on employee job performance (Sun et al., 2020; Lu & Pan, 2019) According to Lu & Pan (2019), ESNs is considered as time-waster as employees may spend more time on using ESNs for non-work-related activities during the working time which may result in reduction in productivity and employee job performance. Such findings indicate that the previous findings related to the use of ESNs in organizations are not conclusive. In addition, even though the effect of ESN on job performance has tested from holistic viewpoint, there is limited understanding on how ESN usage can create influence on in-role and innovative job performance separately.

The divergent views in the previous research may emerged due to the cultural differences between different contexts. Also, factors like attitudes and individual differences among different workgroups may also lead to different findings. Therefore, it is difficult to generalize findings made in other contexts to the Sri Lankan context. Thus, it is apparent that there is a clear research gap in relation to the use of ESNs and its influence on the employee job performance in the context of Sri Lanka. Further due to the difficulty in covering entire population the study was conducted to examine this effect with special reference to Software industry in Sri Lanka. The reason to select software industry is that as the employee collaboration and interaction are paramount important in the Software industry, ESN adoption has been widespread throughout the industry. Thereby more realistic results can be obtained by targeting the employees in the software industry who are using ESN at work.

Therefore, in order to fill the identified research gap, the study is focused on identifying different motives for using ESNs and the influence of ESNs use, in turn, on employee job performance in the Sri Lankan context.

1.3. Research Questions

In order to resolve the research problem identified above, the following two research questions were derived. During this research study, those two research questions were addressed.

- What are the gratifications that motivates employees to use enterprise social networks?
- What is the impact of enterprise social network usage on employee job performance?

1.4. Research Objectives

As per the aforementioned research questions, the following three research objectives were formulated, and they were achieved during this study.

- To identify different gratifications that motivate employees to use enterprise social networks
- To identify the relationship between the identified gratifications and enterprise social networks usage
- To identify the impact of enterprise social networks usage employee job performance

1.5. Significance of the Study

This research contributed to the existing literature by addressing the theoretical gap identified. This study had several theoretical and managerial implications too.

Drawing on the Uses and Gratifications Theory (UGT), this study investigated the effect of motives on Enterprise Social Network usage and its impact on job performance. By answering the research questions this study contributes to existing literature in several ways. First, it identified the motives of employees to engage with ESNs. Second, it extended the existing uses and gratification theory by examining how it will contribute to the employee performance. Third, the study examined the effect

of the use of ESNs two aspects of performance, namely, in-role and innovative performance. Since the areas examined in this study is scare, it will contribute immensely to the existing literature.

The study contributes to the practitioners or managers in different ways. First, it helps them to identify how to motivate employees to use ESNs and increase the use of ESNs in the organization. Second, they can learn how to use ESNs effectively within the organization to improve the performance of the employees. Third, then findings can be used by the managers to justify more investments for ESNs since they lead to higher employee performance within the organizations.

1.6. Chapter outline

This research includes five chapters.

The first chapter of the study gives brief overview of the research which is going to be carried out. It also explains the research background, research problem, research questions, research objectives and the outline of the chapters.

Chapter 2 provides theoretical underpinning of the study. It includes the theories relevant to the study and a review on the empirical findings which have been used in identifying empirical and theoretical gaps.

Chapter 3 explains the overall methodology of the research. It provides an introduction to the conceptual framework, operationalization of the constructs and hypotheses development including key definitions. Further to this it further explains on research approach, techniques of data collection, techniques of data analysis and pilot study results.

Chapter 4 includes data analysis and discussion of findings of the study. It includes data cleansing, demographic and descriptive analysis, measurement model and structural model analysis. After the data analysis, chapter incorporate discussion on the findings under main research objectives with the support of previous empirical findings

Chapter 5 basically provides overall conclusion of the study. Initially it provides a summary of the study. Next, it explained theoretical contribution, practical

implications and limitations of the study. Finally, it suggests the areas for future research.

2. LITERATURE REVIEW

2.1. Introduction

This section focuses on reviewing the existing literature relating to the identified research problem. Accordingly, the concepts on Enterprise Social Networks, Uses and Gratification theory, Employee job performance are explained using the current literature.

2.2. Enterprise Social Networks (ESN)

Enterprise Social Networks (ESNs) can be defined as " Web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular coworkers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited and sorted by anyone else in the organization at any time of their choosing" (Leonardi et al., 2013, p. 2). Ellison et al. (2015) defined ESNs as a set of technologies that include the basic features of social networks but are implemented within an organization, are permitted by management, and have the capacity to limit membership to specific individuals of a selected organization. ESN is identified as a subset of Enterprise 2.0, which refers to the use of social software such as social networking sites, blogs, wikis, microblogging, and social bookmarking services within enterprises (Mäntymäki & Riemer, 2016).

According to Treem & Leonardi, (2013) ESNs are considered and unique and transformation within organization context. This is because in addition to allowing the users to perform aforementioned activities in one place, it also allows these activities to be recorded, stored and available for one's coworkers to refer at any time in the future. As cited by Treem & Leonardi, (2013), rather operating as a channel through which communication travels, ESNs operate as a platform on which social interactions and collaborations occur. Since the platform is digital, anyone in the organization can participate at any time and from any location, as opposed to the physical platforms where most workplace conversations took place earlier (Leonardi et al., 2013). ESNs

enable visibility into others' communicative acts, and the visible traces of those actions persist over time, distinguishing ESNs from other regularly used communication technologies within businesses (Treem & Leonardi, 2013). They further argued that ESN act as a socialization platform which facilitates employee interaction, develop mutual trust, and establish virtual communities. Therefore growing number of organizations are implementing ESN as a mechanism to improve employee performance.

Treem & Leonardi (2013) also emphasized on four main affordances associated with ESN namely, visibility, editability, persistence, and association. As cited by these authors ESNs afford visibility as they render employees' behaviour, preferences, knowledge, and communication networks visible to other employees in the organization. ESN afford editability as employees can create and re-create communicative act before others view or modify the content. As a result, updated and improved information can be transferred to the target audience. ESNs afford persistence as they enhance and sustain knowledge and information by recording each communication and accumulating valuable information. This makes task responsibilities more traceable and avoids possible disputes (Treem & Leonardi, 2013). They further emphasized ESNs afford association as they create relationships among employees and manifest the relationship between employees and information. This facilitates social connections and access to relevant information.

According to Kuegler et al., (2015), an increasing number of organizations are adopting social network based application such as IBM connection, Yammer, Jive, or proprietary solutions that integrate social media technologies such as wikis, blogs, and social networking services, into a single platform facilitating internal communication. According to Leonardi et al. (2013) ESNs can be clearly differentiated from the public social media as public social networks facilitate organizational communication with external parties, such as vendors, customers, and the public at large. Unlike public social networks, which cross a variety of platforms, ESNs use an integrated platform that allows users to post updates on work projects, share organizational objectives,

policies, and procedures with colleagues, share expertise with others, and gain access to others' expertise. (Gonzalez et al., 2013)

According to Dittes & Smolnik (2017), ESNs could impact on three different levels within the an organization namely, Process level, Employee level and Organizational level. As emphasized by these authors, ESN can directly or indirectly can change the existing processes and how things are carried out within the organization. ESNs directly facilitate process level outcomes such as changing the process of communication, collaboration, coordination and information and file exchange. Also, ESNs generate indirect process outcomes such as network building, decision making, knowledge management and transparency. The process level outcomes can create influence on the perceptions, behaviour and task completion of the employees (Dittes & Smolnik, 2017). This may result in several employee level outcomes such as sharing behaviour, learning and knowledge usage, social capital and connectedness, employee's job performance, innovativeness, employee's awareness, and employee's satisfaction. According to their study when more employees are experienced and leveraged with employee level outcomes it adds value to the organization. Therefore, ESNs generate organizational level outcomes such as enhancing the productivity of the organization, improving the innovative capacity of the organization, increasing the staff capacity, increasing the employer attractiveness and employee retention, and changing the organizational culture.

Wang et al. (2018) specified that ESNs has the ability to develop collective wisdom, as well as foster cooperation and innovation. It also enables organizations to better develop connections among employees based on knowledge and information, as well as establish an enterprise social knowledge network to achieve knowledge management. In addition, Wang et al. have cited that ESNs can improve employee interaction, which in turn affects the social capital of individuals in the organization and affects employee performance. Ultimately it creates an influence on the enterprise performance.

Aboelmaged (2018) has also specified set of distinctive features on ESN systems that differentiate them from other knowledge repositories. First, ESNs can be considered

as an integrated system that combine communication, collaborations, and document repository into a single software system. According to this author, the user actions such as preferences, tagging, contributions, connections are visible to the other users via ESNs. He further emphasized that the content published in ESNs permanently remain and accessible by the users. Also, users can collaboratively edit or updated the content published in ESNs. ESNs establish strong relationship among users and between the users and the contents. Also, ESNs possess analytical capabilities such as predicting the connection between users and knowledge path which add value to the organization knowledge and performance (Aboelmaged, 2018). Further ESNs are highly decentralized which make social interaction selective and self-organized.

According Fu et al. (2019) ESNs are social networks established intra-organization and nested with different social elements that brings different uses that are focused not only on work but also on socialization. As examined by these authors the use of ESNs can be divided into work related use and social related use. Here the work related use refers to use of ESNs for utilitarian purpose which involves posting updates on projects or exchanging information on company objectives (Chen & Wei, 2019). The amount to which employees use ESNs to build and maintain relationships with others, such as organizing a social event or making friends within the firm, is referred to as social-related use. (Kugler & Smolnik, 2013).

2.3. Uses and Gratifications theory

Uses and Gratification theory was originally developed in 1940 and used to examine the satisfaction of radio listeners (Liang et al., 2020). This theory has also been applied in the context of different types of print media such as newspapers and magazines, television (Dunne et al., 2010). The uses and gratification theory focuses on the social and psychological bases of needs, which generate media expectations and various media exposure, resulting in needs fulfillment (Katz et al., 1974). According to Katz et al. (1974) this theory follows positivist approach as it is based on the relationship between user and medium. As cited by them users are capable of understanding their own needs and, as a result, of selecting the appropriate media.

This theory investigates the gratifications or benefits that draw audiences to various media platforms and the types of content that meet their social and psychological needs. (O'Donohoe, 1994 cited in Dunne et al., 2010). According to Katz et al. (1974) there are five basic assumptions of this theory; the audience is active and its media use is goal oriented, the initiative in linking need gratification to a specific medium choice rests with the audience member; the media compete with other resources for need satisfaction, people have enough self-awareness of their media use, interests, and motives to be able to provide researchers with an accurate picture of that use and value judgments of media content can only be assessed by the audience.

According to Tanta et al. (2014) use and gratification approach investigate how and based on which motives individuals use the media as well as which gratifications are obtained thereat. The goal of uses and gratifications theory is to better understand why individuals choose certain types of media as well as to investigate diverse motives of individuals when interacting with media. (Hossain, 2019). As it establishes a relationship between choices and their outcomes, this can be considered an acceptable paradigm for studying media consumption motivation and its influence (Stafford et al., 2004).

The emergence of new digital technologies has re-energized the use of Uses and Gratification theory for the new media. Therefore, it has been widely adopted with new communication media such as Social networks sites, Mobile social network sites, online games, and virtual communities (Hossain, 2019). When considering the ESNs, employees may enjoy the process of utilizing ESNs, the quality of content and information offered via ESN, or the social engagement enabled with others in the organization (Liu & Bakici, 2019). Such gratifications received from the use of ESN may encourage people to actively use ESN. Therefore, in identifying what motivates employees to use ESN this theory can be best applied.

Recently it is evidenced that a growing stream of researches have adopted the Uses and Gratification theory in order to explain the individuals' use of different media (Liu et al., 2010 Smock et al., 2011; Alhabash et al., 2014; Alhabash & Ma, 2017; Gan & Li, 2018; Hossain, 2019). Further as identified in chapter 01, 80% of ESN projects

fail due to lack of adoption by the employees. According to Csikaza (2016) instead of asking why majority of employees do not use ESN, it can be focused on identifying gratifications obtained by the employees who do use ESN in order to encourage the ESN utilization. Therefore, due to these reasons it can be justified the use of Uses and Gratification theory for this study.

2.4. Gratifications and Enterprise Social Network Usage

There are different studies conducted in order to identify the different gratifications or motives that directed people to use different medias.

Liu et al. (2010) conducted study to investigate the factors influencing users' continuance intention to use Twitter using 124 twitter users. The content gratification, social gratification and process gratifications were considered to be the independent variables of the study whereas the continuance usage was considered to be the dependent variable. Here information sharing and self-documentation were considered as sub constructs of the content gratification, Social interaction was considered as the sub construct of social gratification and entertainment, passing time, self-expression were considered as the sub constructs of process gratification. The data collection was conducted using the online questionnaire while the data analysis was performed using Partial Least Square technique. The results of the study demonstrated that the content gratifications; information sharing and self- documentation are having significant effect on continuance usage whereas social and process gratifications are having no any significant effect of continuance usage.

Smock et al. (2011) examined user motivations associated with the use of specific features of the social networks. Relaxing entertainment, information sharing, escapism, companionship, cool and new trend, personal advancement, social interaction, pass time, meet new people were identified as independent variables of the study. The questionnaire survey was used to collect data from a sample of 267 undergraduate students at Midwestern university, Arizona and the analysis was performed using Ordinary Least Squares Regression.

Whiting & Williams (2013) conducted study in order to examine the uses and gratification consumers receive from using social media. This was conducted as an exploratory study consisted of 25 in- depth interviews targeting the individual ranging in age 25 to 56 years old. Analysis of the qualitative comments revealed ten uses and gratifications for using social media by consumers. The uses and gratifications found in this study are social interaction, information seeking, pass time, entertainment, relaxation, communicatory utility, expression of opinions, convenience utility, information sharing, and surveillance and watching of others.

Alhabash et al. (2014) explored the relationship between motivational reactivity, motivations, and intensity to use Facebook. In this study information sharing, self-documentation, medium appeal, entertainment, escapism, socialization, and self-presentation were used as independent variables whereas usage intensity was tested as dependent variable. The data were collected from the sample of 3172 Taiwanese Facebook users using questionnaire survey. The results of the study suggested that all the variables are having effect of usage intention and it can vary based on the motivational reactivity of the respondents.

Another study conducted by Ali-Hassan et al. (2015) has identified three major types of need that can be gratified by social media use as social needs, hedonic needs and cognitive needs. Here social needs can be defined as using social media to create new social relationships, identify individuals with similar interests and connect with existing friends and family. Hedonic use refers to the use of social media for entertainment, fun, passing time, relaxing, and escaping. Cognitive needs refer to use of social media for creating and sharing content including sharing opinions, stories, ratings, debates, personal photos, and videos and accessing content produced by other individuals. The sampling frame for this survey was a social media community of interest comprising of 1700 employees of a large multinational Information Technology company and data analysis was done using Partial Least Square (with SmartPLS 2.0.M3).

A study conducted Chiu & Huang (2015) focused on developing a model to examine the antecedents of user gratification and its effects on individuals' social network

services usage. This study was conducted using a sample of 657 Facebook users and covariance-based SEM (LISREL 8.51) was used to analyze the measurement model and the structural model. As per the study the choice of actions of the people affected when people obtain positive effect from online social interactions. According to the study when social network users are gratified with their online interaction experience, they are more likely to show positive behaviours towards social networks such as loyalty or continued use. The findings of the study suggested that individuals use social networks to fulfill a variety of understanding, orientation and play motivations, such as gaining insights into themselves, be up-to-date with world events, obtaining guidelines for their behaviors, learning how to interact with others and entertaining friends or themselves. As cited by the authors, more the reliance on social networks to satisfy these goals, more the usage of these services. The study revealed that social network users perceived that use of social networks allow them to build greater relationships with their friends and this gratification can be seen as the predictor of continued usage. As per the findings, there is a positive relationship between the level of gratifications received from the given social network and continue usage of the network; higher the gratification received higher the individual continues usage of social networks.

Csikaza (2016) conducted research study to examine why employees' make use of ESN and the employees' perspective of gratification sought and obtain through ESN. The study focused on two main gratifications including work related gratification and social gratification. The questionnaire survey was used to collect data from a sample of 610 employees working in five different organizations operates in Sweden. The multiple linear regression using Statistical Package for the Social Sciences was performed for the purpose of data collection. The results revealed that ESN usage is heavily motivated by work related gratifications. It is said that ESN is used as a way of getting work done more quickly and efficiently, than spending the workday talking to other coworkers in the organization.

A study conducted by Liu et al. (2016) focused on identifying factors that drive microblogging and how those factors affect on user satisfaction. Based on the previous

literature authors have selected four motivations namely, content motivations (self-documentation, information sharing, self-expression),social motivations (social interaction), process motivations (entertainment, passing time),and technology motivations (convenience, medium appeal, social presence) as independent variables and user satisfaction with the microblogging as dependent variable. In order to test the hypotheses an online survey was directed to a sample of 230 microblogging users and the analysis was conducted using partial least squares (PLS) method. The results of the study demonstrated that content motivations and technology motivations are having significant influence on the satisfactions with the use of microblogging whereas social motivations and process motivations are having insignificant effect on the user satisfaction with microblogging use.

Alhabash & Ma (2017) explored relationship between differences between intensity of use, time spent daily on the platform, and use motivations of different platforms such as Facebook, Instagram, Snapchat, and Twitter. Data were collected from 396 collect students Michigan State University using online questionnaire survey. Here nine independent variables namely, information sharing, self-documentation, social interaction, entertainment, passing time, self-expression, medium appeal and convenience as the motivators affect on usage intention.

Gan & Li (2018) conducted study with the purpose of examining the effects of different gratifications on the continuance intention to use WeChat in China. Here, perceived enjoyment, passing time, social interaction, social presence, self-presentation, information documentation and information sharing were used as independent variables covering hedonic, social, and utilitarian gratification. Continuance intention was used as dependent variable. Data were collected via a questionnaire survey from 297 WeChat users in China and analyzed using Partial Least Squares Structural Equation modeling. According to the findings it was identified that Perceived enjoyment and information sharing are having significant effect on continuance usage whereas passing time, social interaction, social presence, self-presentation, and information documentation are having no significant effect on continuance usage.

Hossain (2019) investigated how gratifications create an impact towards usage intention. In determining this effect uses and gratification which represent enjoyment, passing time, information seeking, self-presentation, social presence and social interaction was used as independent variable and continuous usage intention was selected as dependent variable. Online survey questionnaire used and distributed among the sample of 287 respondents in Bangladesh. The model was tested using Structural Equation Modeling and it was revealed that the uses and gratifications are having significant influence of the continued use of social media.

A research conducted by Meske et al. (2019) investigated how different motivations play an important role in determining an employee's intention to continue usage of ESNs. Here the authors have examined the effect of hedonic motivations and normative motivations. The four drivers namely, driver to acquire, driver to bond, driver to comprehend and driver to defend were tested under hedonic motivations. A questionnaire survey directed to the employees working in world's largest courier companies, headquartered in Germany using Yammer platform. The 107 responses collected through this survey was analysed using Structural Equation Modeling based on Partial Least Squares. According to the research findings, the extent to which an ESN supports the drives to comprehend, acquire, bond and defend highly influences an employee's hedonic motivations and on the other hand, hedonic motivations have a much stronger influence on continue use of ESN than normative motivations.

Liu & Bakici (2019) conducted research to examine different motives to and moderating role of public social media public social media experience on ESN use. Here, they have identified three main gratifications namely, content gratification, process gratification and social gratification as motives influencing the ESN use. The independent variables were identified covering above three gratifications. Accordingly, information seeking, information sharing, self-documentation, entertainment, and social interaction were identified as independent variables of the study. The study was conducted using a sample of 171 ESN users from 21 countries using online questionnaire. The model testing was performed based on hierarchical multiple regression using Statistical Package for the Social Sciences. The findings of

the study information sharing, entertainment and social interaction were identified as highly predictive motives of ESN usage whereas self-documentation and information seeking were identified as having insignificant effect on ESN usage.

Sun et al. (2020) examined how employees' gratification of needs affect their excessive use of ESN. In this study gratifications of these needs namely perceived values, including perceived social, information, and hedonic values were selected as independent variables and excessive use of ESN was selected as dependent variable. Questionnaire survey technique was employed to collect data from 525 full-time employees in various industries in China using ESN at work. The Structural Equation Modeling based on Partial Least Squares was employed as the technique of data analysis. As per the results of the analysis it was evidenced that perceived information and social values exert positive influences on excessive use of ESN and hedonic value exert no significant influence on excessive use of ESN.

2.5. ESN use and Employee job performance

Job performance is a central research topic in organization behavior domain. According to Campbell et al. (1990) job performance is identified as multidimensional concept. Since it is multidimensional, when defining job performance, it is important to consider behavior rather than results and also to include those behaviors that are important to the accomplishment of organization goals (Fogaça et al., 2018). Employee Job performance is considered as critical in determining organization performance (June & Mahmood, 2011). Campbell et al. (1990, p.314) defined job performance as "observable things people do (i.e., behaviors) that are relevant for the goals of the organization. According to Caillier (2010, p. 140) employee job performance can be defined as "how well an employee performs his or her work-related duties. The performance is considered as important employers because it influences on the decisions regarding promotions, terminations, merit increases, and bonuses (Caillier, 2010). Job related task competency, behavior related to core job activities, commitment to core tasks, and overall work behavior have all been identified as essential elements that influence job performance. (Fogaça et al., 2018). In general,

job performance relates with an employee's ability to achieve their individual goals, meet expectations and job targets set by an organization (June & Mahmood, 2011).

Job performance is considered to be broad and complex construct which comprise two different aspect namely in-role performance and innovative work performance (Katz,1964 cited in Janssen & Van Yperen, 2004). In role job performance can be defined as actions specified and required by an employee job description therefore it is mandated, appraised, and rewarded by the employing organization (Janssen & Van Yperen, 2004, p.369). According to Al-Abbadi, (2018) in- role job performance is the dimension that constitute employee's tasks and responsibilities mentioned in the employee job description. According to Janssen & Van Yperen, 2004 having such predefined set of tasks and procedures make the work behavior predictable, so that basic organizational tasks can be controlled and coordinated in order to achieve overall goals and objectives of the organization. The proficiency of employees in carrying out assigned tasks and responsibilities is identified as an important factor which causes deviation in job performance among different employees. In order to assess in-role job performance, Janssen (2001) have used 3 dimensions namely Job description, employee's responsibilities and performance requirements.

In addition to specific roles and responsibilities that are assigned to the employees by the organization, employees may have to engage in innovative and spontaneous behaviors that are not specified by job requirements but facilitate organization effectiveness (Turnley & Feldman, 2000). Therefore, it is important to give freedom to the employees to be innovative in order to adopt to the new opportunities and problems. Therefore, innovative job performance become part of employee job performance. Innovative job performance can be defined as "the intentional generation, promotion, and realization of new ideas within a work role, work group, or organization in order to benefit role performance, a group, or an organization" (Janssen & Van Yperen, 2004, p.369). According to Janssen & Van Yperen (2004) innovative job performance concerns the development and deployment of anything new for which the necessary knowledge, techniques, and strategies have yet to be learnt. This covers dimensions that represent new ideas and solutions generated by an

employee in order response to the problems faced in the organization environment (Dizgah et al. cited in Al-Abbadi, 2018). Janssen (2001) evaluated innovative job performance using 3 dimensions namely, idea generation, idea promotion and idea realization.

Even though it is important to analyse the effect of ESN use on employee job performance most of the studies have focused on variables such as employee engagement, employee productivity, employee satisfaction and etc. which are closely associated with the job performance of the employees.

Kuegler et al., (2015) conducted research to study link between enterprise social software platforms and potential performance impacts. Here the authors have used intra team ESN use and inter team ESN use as independent variables and task performance impact and innovative performance impact and dependent variables. The study was conducted using a sample of 529 employees working in an international media company. Data were collected using online questionnaire and the data were analyzed using Structural Equation Modeling based on Partial Least Squares. The results of the study suggested intra team and inter team ESN use positively influence employees' task performance impact and their innovative performance impact. The study further revealed that the ESN usage is more suited with supporting non routing tasks compared to routine tasks. Also, it was evidenced that using ESN to connect within teams has a stronger effect on task performance, while using ESN to connect across teams has a stronger effect on employee innovation.

Another study conducted by Suh & Bock (2015) explored how ESN use influences individuals' task performance in dispersed teams using the 138 sample of employees involved in information system (IS) development projects in a large global business consulting firm that adopted ESN. The study considered use of ESN as independent variable and task performance as dependent variable. The data for the study were collected using online questionnaire survey and data analysis was conducted using hierarchical linear modeling. According to the analysis it was found out that that the use of ESN significantly influences the content (expressive or instrumental networks)

and structure (intra-team extra-team structures) of individuals' social networks, which leads to improved task performance.

Moqbel et al. (2017) empirically examined the effect of ESN use on knowledge workers' job performance. Here the ESN use was considered as the independent variable while performance was considered as dependent variable. At the phase of data collection, online questionnaire was used to gather data from the sample 320 employees of a large information technology firm in the Midwestern United State. The data collection was conducted using Structural Equation Modeling based on Partial Least Squares. The study revealed that there is a positive and direct relationship between ESN usage and job performance. According to the findings the positive relationship between ESN use and job performance indicates that ESN can be used as a powerful platform to leverage human resource in the organization by facilitating knowledge sharing among employee to enhance their performance.

A research conducted by Aboelmaged (2018) examined how the use of ESNs for knowledge sharing improves employee productivity. Data were collected from the sample of 115 ESN uses in the private and public firms in United Arab Emirates. Online survey was conducted for the purpose of data collection and Structural Equation Modelling using Partial Least Squares. The results of the study indicated that using ESNs to share internal and external knowledge has a positive significant impact on employee productivity.

Pitafi et al. (2018) investigated how the utilization of ESN influences the work performance of employees through task interdependence. The use of ESN was considered to be the independent variable while work performance considered to be the dependent variable of the study. The sample frame of the research consisted of 175 respondents in China who use ESN at work. Questionnaire technique was employed for the purposed of data collection. The findings of the study confirmed that the ESN usage plays in significant role in improving work performance through task interdependence.

A study conducted by Giermindl et al. (2018) investigated how ESNs usage and usage practices impact on individual task performance. ESN usage frequency was considered as independent variable and perceived task performance was considered as dependent variable. Data collection was performed using survey of 9541 participants followed by 15 interviews in a multinational and knowledge-intensive company operates in more than 150 countries. Multiple Ordinary Least Square Regression was performed for data analysis. The result of the study revealed that individuals who use ESNs more frequently perceived a higher individual task performance. Therefore, there is a significant positive relationship exists between the ESNs usages and employee task performance.

Another study conducted by Lu & Pan (2019) has investigated employee involvement in ESN and the impact of ESNs on job performance using the sample of 3689 employees in high-tech spacecraft equipment manufacturing company in China. Considering the focus of the study the authors have collected online behavioral data on users' online traces of activities and interactions in the ESN platform through internal ESN database and offline employee information from the human resource management system. Also, hierarchical regression analysis was employed to investigate how the ESN usage behaviors of employees affect their job performance. The findings of the study confirmed that the ESNs use could help improve employee job performance.

As per the analysis of the relationship between ESN use and employee performance it is evidenced that there is a positive effect of ESN use on employee performance. However, contradictory findings were presented in several studies highlighting certain aspects of these social networks which can negatively affect on employee performance. According to Turban et al. (2011) when employees extensively engage with the entertainment activities using ESN it resulted in waste of productive time.

Also, it was specified that the use of ESN at work may act as a double-edged sword which can create influence on both employees and the organization (Liu & Bakici, 2019; Lu & Pan, 2019). According to Ng et al. (2013 cited in Lu & Pan (2019), ESN is considered as a time waster which can lead to increase the interruption of employees'

work activities hence decreasing the employee productivity. It was further argued that ESN was considered as an important platform fir entertainment for most of the employees. As a result, they may use this platform to discuss interesting topic that the concerned about. According to the authors spending more time on ESN doing non work related activities including browsing interesting topics, chatting with others and creating and sharing posts to express one's opinion or views may result in diminishing employee productivity which it turn may negatively affect on employee productivity.

2.6. Prevailing research gap

Based on the analysis of the previous literature a clear research gap was evident. The purpose of this study is to examine how different motivations can effect on ESN use and how ESN use in turn can effect on employee job performance. First there were studies suggesting the importance of ESN adoption by the employees highlighting the investment companies made of the implementation and the business benefits derived through ESN. Therefore, encouraging employees to use ESN at work become a prominent fact. Considering the rapid usage of ESN by the organizations in Sri Lanka it is worthwhile to identify the different motivations that may influence on the employee use. On the other hand, this study examined effect of gratifications on ESN use and effect of ESN use on job performance using a single model. Since there were no studies conducted in Sri Lankan context addressing both of these aspects it is worthwhile examining this domain.

In addition to that most of the previous studies aimed at exploring the effect of ESN use on performance were considered the total effect the ESN use created on employee job performance. However, as the job performance can improved as both in-role and innovative performance, in addition to analyzing the total effect study has also attempted to analyse the in-role performance and innovative performance separately.

On the other hand, the studies conducted in the different context seems to present contradictory findings too. Such circumstances may occur as result of cultural and individual differences in different context. However, presence of inconsistent findings may also allow author to explore and identify how there finding can be generalize to the local context.

2.7. A systematic literature review approach to identify the factors affecting the ESN usage

As discussed in the section 2.4 there are various motivations that can affect on ESN usage. The section mainly covered the systematic literature review approach followed by the research in order to generate various motivations and identify the suitable motivations for the study.

The initial search of the related articles was performed using Google and Google scholar. Based on the search results generated, the articles included in the various databased were considered of the study. Accordingly, authors have obtained the articles available in Elsevier, Sage, Taylor and Francis, Semantic scholar, Google scholar and ResearchGate and Wiley online library. The search was conducted using several keywords relevant to the study starting with single keyword and expanding it by adding more words one at a time.

Initial screening of the articles was conducted by reviewing the research title of the articles. Then, the abstracts of the articles were reviewed in order to determine its suitability to the study. Finally, the entire content of most of the articles were reviewed. In addition to the articles obtained from the initial search, some articles were manually searched based on the reference list of the selected articles. Out of all the articles generated, the articles that were irrelevant and the full text were not available, were excluded from the further reference. When selecting the articles to be used for the literature review the time frame was also considered by the authors. Accordingly, the articles published within the timeframe of 2010 to 2020 were considered for the review. The total of thirteen articles were considered for the review.

As explained in the section 2.4 when reviewing the literature on the motivation to use ESN, the authors have examined the objectives, the theories and conceptual models used, the variables and the relationships examined, context of the study, analytical techniques used in the study and findings of the selected articles.

The summary of the findings of the review is presented in Table 2.1. It basically summarised the fourteen factors identified through the literature review along with their frequency of usage.

Table 2.1:Summary of the motivations affecting ESN usage

Construct	Literature citation	No: of citations - 13	
		Frequency	Percentage
Entertainment	Liu et al.(2010); Smock et al. (2011);Whiting & Williams (2013); Alhabash et al., (2014); Ali-Hassan et al., (2015); Chiu & Huang, (2015);Liu et al. (2016) Alhabash & Ma, (2017); Gan & Li (2018); Liu & Bakici, (2019); Meske et al., (2019); Hossain, (2019); Sun et al. (2020)	13	100%
Information sharing	Smock et al. (2011); Whiting & Williams, (2013);Alhabash et al. (2014); Ali-Hassan et al. (2015);Alhabash & Ma (2017); Gan & Li (2018); Liu & Bakici (2019); Meske et al. (2019); Hossain (2019)	12	92%
Social interaction	Smock et al. (2011); Whiting & Williams (2013); Alhabash et al. (2014); Ali-Hassan et al. (2015); Chiu & Huang (2015); Liu et al. (2016);Alhabash & Ma (2017); Gan & Li (2018); Liu & Bakici (2019); Meske et al. (2019); Hossain (2019)	12	92%
Self-documentation	Liu et al. (2010); Alhabash et al. (2014); Liu et al. (2016); Alhabash & Ma, (2017); Gan & Li, (2018); Liu and Bakici, (2019)	6	46%
Information seeking	Whiting & Williams (2013); Liu & Bakici (2019); Meske et al. (2019); Hossain, (2019); Sun et al. (2020)	5	38%
Self-presentation	Alhabash et al. (2014); Chiu & Huang (2015); Hossain, (2019); Gan & Li (2018)	4	31%
Medium appeal	Alhabash et al. (2014); Liu et al. (2016); Alhabash and Ma (2017)	3	23%
Convenience	Whiting & Williams (2013); Liu et al. (2016); Alhabash and Ma (2017)	3	23%
Escapism	Smock et al. (2011); Alhabash et al. (2014)	2	15%

Personal development	Smock et al. (2011); Chiu & Huang (2015)	2	15%
Expressing opinion	Liu et al. (2010); Whiting & Williams (2013)	2	15%
Cool and new trend	Smock et al. (2011)	1	8%
Communicatory utility	Whiting & Williams (2013)	1	8%
Watching others	Whiting & Williams (2013)	1	8%

Analysis of literature considered three main classifications relevant to the gratifications. This includes, content gratification, process gratification and social gratification (Liu & Bakici, 2019). The systematic review of literature presented authors with fourteen gratification that can affect on media usage. As depicted in the Table 2.1, first five variables have been used in more than 30% research articles representing considerable percentage. Considering these results, the variables of information sharing, information seeking, and self-documentation were selected to represent content gratification, entertainment was selection to represent process gratification and social interaction was selected to represent social gratification as these variables were heavily used in the previous literature on uses and gratification.

2.8. Summary

This literature review of this study basically focused on exploring existing knowledge relevant to the research context in order to accomplish research objectives. In this chapter researcher explained about the key concepts, relevant theories, and the relationship between the constructs relevant to the study. In addition, the chapter also presented that prevailing research gap and the systematic literature review in order to determine the independent variables of the study. The next chapter presents an extended elaboration on these relationships with the support of conceptual framework.

3. RESEARCH METHODOLOGY

3.1. Introduction

This section covers the methodology used to conduct the study in order to achieve the research objectives. This section includes the research approach, conceptual model, hypothesis development, population and sample selection and method of data collection and data analysis.

3.2. Overall design of the study

Saunders et al. (2009) introduced research onion model which illustrates how the different elements involved in the research can be used to develop overall design of the research. This overall design of the study is consisted of the research philosophy, research approach, research design, research choice and research strategy. All these elements are explained under this section.

3.2.1. Research philosophy

According to Saunders et al., (2015) research philosophy can be defined as a system of beliefs and assumptions relevant to the development of knowledge. The researcher makes assumptions at each stage of the research which ultimately shape the researcher's understanding on research questions, methodology and interpretation of findings (Saunders et al., 2015). According to them, these assumptions include the assumptions on human knowledge (epistemological assumptions), on the realities encounter in the research (ontological assumptions) and the way researcher's own values influence the research process (axiological assumptions). They further highlighted that, a consistent set of assumptions constitute a sound research philosophy which assists in developing coherent research study.

According to Saunders et al., (2015) based on the three main philosophical assumptions, the philosophies in the disciplines of business and management are spreaded along a multidimensional set of continua between two opposing extremes namely objectivist and subjectivist. The Objectivism includes the assumptions of the natural sciences which argues that the social reality that we research is external to the researcher. For the objectivist perspective, social and physical phenomena exist

independently. The subjectivism consists of the assumptions of the arts and humanities stating that the social reality is made from the perceptions and subsequent actions of social actors (Saunders et al., 2015).

As cited by Saunders et al. (2015) in the field of business and management research, it can be identified five different types of philosophies namely positivism, critical realism, interpretivism, postmodernism and pragmatism. Positivism involves working with observable social reality in order to generate law-like generalizations. In this approach research would use universally accepted rules and laws in order to explain and predict behaviour and event. Saunders et al. stated that the positivist researcher employs existing theory to develop hypotheses. These hypotheses then tested and confirmed or rejected resulting the further development of the theory which may be tested by further research. With the development of hypotheses, gathering of facts will be undertaken as the basis of hypotheses testing. In this approach, the researcher would try to be away from data and neutral to avoid influencing on the findings of the research in positivism (Saunders et al., 2009). Saunders et al. have further claimed the positivist researchers are likely to follow structured methodology to facilitate replication and emphasis more on quantifiable observation which allow them to perform statistical analysis.

In the current study, the initial hypotheses are developed based on the Uses and Gratification theory. Further, the researcher is independent from the data generation. Also, the research employed highly structured methodology and focused more on quantifiable facts to facilitate statistical analysis. Therefore, the current study followed the positivism philosophy as it consisted of characteristics of positivism.

3.2.2. Research Approach

According to Saunders et al. (2015) there are two contrasting approaches that can be observed in any research namely, deductive approach and inductive approach.

Deductive approach follows a systematic approach for generating knowledge to solve basic and managerial issues. According to Sekaran & Bougie (2016) this method is used to test a theory on a topic of interest. According them, in deductive reasoning, the researcher starts with a general theory and narrow down it into specific hypotheses that

can be tested. It can further be narrowed down when specific observations are collected to test the hypotheses. Ultimately, the original theory can be confirmed (or refuted) by analyzing these specific observations. Therefore, as explained by Sekaran and Bougie, in deductive approach the researcher works from more general to more specific. They further noted this approach follows 7 steps which include, identifying a broad problem area, defining the problem statement, hypothesizing, determining measures, data collection, data analysis, and the interpretation of the results. Therefore, under this approach researcher develops the hypotheses based on the existing literature in order to address the research problem and then collect the data in order to determine the validity of the model and test hypotheses developed (Sekaran & Bougie, 2016).

According to Saunders et al. (2015) in deductive approach there is a search to explain the relationship exists between concepts and variables. Also, this approach involves highly structured methodology. Additionally, during operationalization, it is important to operationalize the concepts in a way that allows facts to be measured quantitatively. Saunders et al. further stated that it is important to select the right sample and a sample with a sufficient size in order to ensure generalizability in deductive approach. However as emphasized by these authors this approach has been criticized by the followers of the inductive approach as it follows a rigid methodology that does not allow alternative interpretations on what is happening.

On the other hand, in inductive approach researcher starts collecting data to explore a phenomenon and the theory is generated or developed based on the collected data (Saunders et al., 2015). Also, in inductive approach researcher works from more specific to general (Sekaran & Bougie, 2016). Researchers following inductive approach are likely to concerned with the context in which particular event takes place.

Deductive approach is more towards positivism philosophy, whereas inductive approach is more towards to interpretivism philosophy. Also, a large sample size is more appropriate with the deductive approach whereas a small sample size is appropriate with the inductive approach (Saunders et al., 2015). Moreover, deductive approach is associated with quantitative research, while inductive approach is associated with qualitative research (Bryman and Bell, 2011).

Considering above facts in relation to research approach, it can be identified that the current study has followed the deductive approach. This study followed highly structured and methodical approach which involves series of steps starting from identifying problem area and ending with interpreting findings. As emphasized in the deductive approach this study also developed hypotheses with the support of existing literature and then collect data to validate the model and test hypotheses. Also the current study is quantitative in nature which is more suited with deductive approach. In addition to that considering the available time frame the deductive approach is considered to be more applicable as it follows narrow process and associates with an investigation of a specific theory, in comparison to inductive approach (Bryman & Bell, 2011).

3.2.3. Research design

Research design is the general plan of how the researcher intends to address the research questions (Saunders et al., 2015). According to these authors the way researcher addresses the research questions determines whether it is an exploratory, descriptive, explanatory, or evaluative research.

Exploratory research focuses on asking open questions to identify what is happening and gain insights about the topic of interest (Saunders et al., 2015). This nature research are useful when the researcher wants to clarify an issue or phenomenon. Exploratory research can be conducted in different ways such as search of the literature, interview experts in the subject, conducting in depth interviews with individuals and groups. Exploratory research can be started with a broader focus will be narrowed as research progresses (Saunders et al., 2015).

According to Saunders et al. (2015) descriptive research focuses on providing accurate representation of persons, events or situations. In such studies, researcher need to have a clear picture of the phenomenon on which he/she plans to collect data before commencing the actual data collection.

On the other hand, the goal of explanatory research is to examine a scenario or problem in order to examine the links between variables. (Saunders et al., 2015). According to them these studies establish the causal relationship between variables.

Evaluative research focuses on identifying how well something works. Further research interested in making comparisons between events, groups, places, or time periods (Saunders et al., 2015).

The current study can be identified as having the features of both explanatory research. First, the study focused on examining how different motivations affect on ESN use and how ESN use affect on employee job performance in terms on in-role performance and innovative performance. Therefore, it can be identified as an explanatory research as it expected to study the relationship between set of variables in order to address research questions and achieve research objectives.

On the other hand, this is considered as descriptive as the researcher had a clear idea on the unit of data collection. The study was conducted on the gratifications that motivate employees to use ESN and how ESN use affect employee job performance with reference to software industry. Therefore, the sample included the employees working in the software industry using ESN at work as they have the experience in ESN which is a critical factor in completing questionnaires.

Another important decision relevant to the research design is choosing a time horizon. According to Saunders et al. (2015), based on the research questions this can be either 'snapshot' time horizon or 'diary' perspective. Snapshot time horizon refers to cross-sectional whereas diary perspective refers to longitudinal.

Cross-sectional study involves studying of a particular phenomenon at a particular time (Saunders et al., 2015). Saunders et al. have emphasized that this method is employed in many academic studies due to the time constraints.

According to Saunders er al. (2015) longitudinal studies study the change in phenomenon over the period of time. They emphasized the main advantage of longitudinal study over cross-sections is that the possibility to study change or development.

When considering the current study, researcher conducted the study during the one specific time period to the time constraint attached. Therefore, the study was conducted as a cross-sectional study. This can further be supported with using existing literature

as the most of the studies on uses and gratification and employee job performance were conducted as cross-sectional studies (Alhabash et al., 2014; Chiu & Huang, 2015; Moqbel et al., 2017; Giermindl et al., 2018; Hossain, 2019; Liu & Bakici, 2019).

3.2.4. Research strategy

According to Saunders et al. (2015) research strategy explains how research will answer the research questions. There are various types of research strategies that are linked with different research designs. As cited by Saunders et al. a research strategy may be associated with the research approaches and philosophies. However, no single study strategy can be identified to be superior or inferior to others. According to the authors the selection of suitable research strategy enable researcher to address research questions and meet research objectives. Therefore Saunders et al. emphasized that the selection of research strategy is guided by research questions, research objectives, link with research approach, philosophy and purpose, extent of existing knowledge, amount of time and resources and access to the participants and other data sources. There are several research strategies that can be identified under management research namely experiment, survey, archival and document research, case study, ethnography, action research, grounded theory, and narrative inquiry.

Out of these different strategies survey approach is identified as more commonly used and popular strategy in business and management research (Saunders et al., 2015). People in general regard survey approach as authoritative easy to interpret and understand. Also as cited by Saunders et al. survey is usually linked with deductive approach and more frequently used to answer questions involving ‘what’, ‘who’, ‘where’ and ‘how many’. They further emphasized that the survey strategy which involves questionnaires are considered to be more popular and economical as they facilitate collection of standardized data from considerable population. Also, the survey strategy allows researcher to gather quantitative data which can then be analysed using descriptive and inferential statistics. And these data can be used to identify the reasons for the relationship between variables and to develop models depicting the relationships (Saunders et al.,2015).

Current study followed deductive approach and it was a cross-sectional study due to time limitation. Therefore, the survey strategy can be applied for the study. Similarly, due its popularity, effectiveness and ability to cover sizeable population, the questionnaire survey was employed under this strategy. Additionally, the most of the related literature has followed this approach which further supported to the selection of survey strategy (Chiu & Huang, 2015; Alhabash & Ma, 2017; Moqbel et al., 2017; Gan & Li, 2018; Hossain, 2019; Liu & Bakici, 2019; Pitafi et al., 2020)

3.2.5. Research choice

Another important aspect of the research design is identifying the data collection and data analysis techniques of the research which is identified as Research choice (Saunders et al.,2015). There are two research choices namely mono method and multiple method. Mono method involves the use of single data collection technique and corresponding data analysis procedure while multi method involves that use of more than one data collection techniques and corresponding data analysis procedures (Saunders et al., 2015). According to Saunders et al. the researchers using mono method may use either single data collection technique with relevant quantitative procedure (mono method quantitative study) or single data collection technique with corresponding qualitative analytical procedure (mono method qualitative study). Similarly, the researchers following multi-method may either use more than one quantitative data collection technique and relevant analytical procedures (multi-method quantitative) or more than one qualitative data collection technique and relevant analytical procedures (multi-method qualitative).

The current study employed mono method as research choice. This is because the study has adopted single data collection method and corresponding data analysis procedure. Accordingly, the data collection was undertaken using structured questionnaire whereas data analysis was performed through quantitative data analysis procedure. This can further be supported by the previous literature on uses and gratification and job performance which have adopted mono method by selecting single data collection technique and relevant data analysis procedure (Chiu & Huang, 2015; Alhabash & Ma, 2017; Moqbel et al., 2017; Gan & Li, 2018; Hossain, 2019; Liu & Bakici, 2019; Pitafi et al., 2020)

The summary of research approach is explained in Figure 3.1.

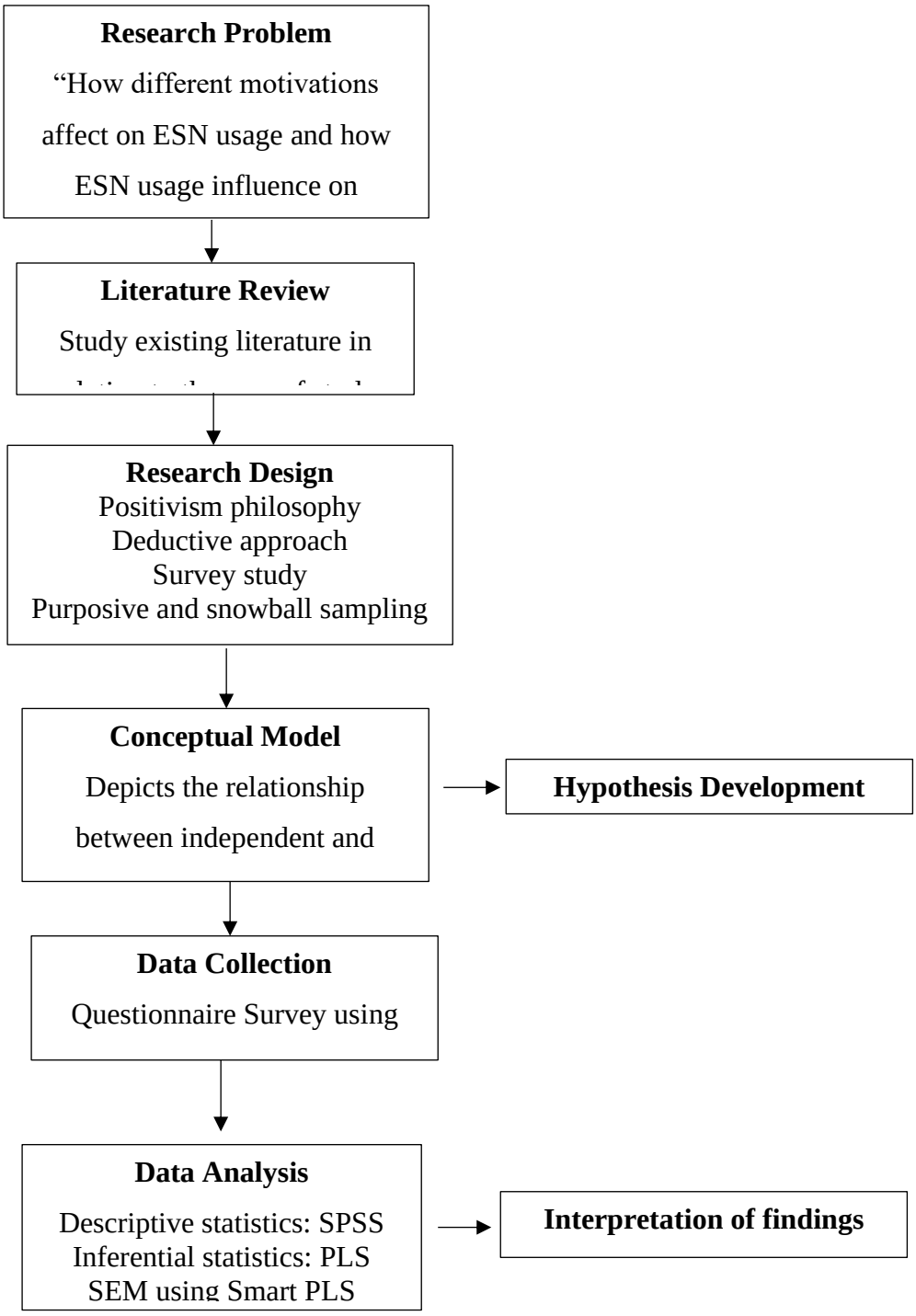

Figure 3.1: Summary of research design

A conceptual framework describes how the concepts or variables are related to each other. It helps to structure the discussion of the literature. According to Imenda (2014) " conceptual framework can be defined as an end result of bringing together a number of related concepts in order to explain or predict a given event or provide a broader understanding of the phenomenon of interest or of a research problem". As mentioned by Sekaran and Bougie (2016) it seeks to identify "presumed relationships" among key constructs that are planning to be studied. The justification for these relationships may come from different sources such as one's own prior research or "tentative theories" as well as established theoretical or empirical work found in the literature. They have further argued that the conceptual framework guides the ways in which researcher think about collecting, analyzing, describing, and interpreting research data. It is a fundamental and driving component of the empirical research cycle. According to Sekaran and Bougie, the hypotheses can be developed based on the framework to investigate whether the theory is valid, and the hypothesized relationships can then be tested using appropriate statistical tool. Therefore, the conceptual framework serves as the foundation for the entire deductive research project. According to McGaghie et al. (2001), conceptual framework contributes to the research in two ways; by identifying research variables and clarifying the relationships existing among the identified variables. It sets the stage to present specific research question that drives the investigation. Scholars have specified number of benefits associated with the use of conceptual framework for the research study. According to Grant & Osanloo (2014) conceptual framework describes the relationship existing between the main concepts of a study. It is organized in a logical manner to create a visual representation of how the concepts of the study relate to one another. Further it indicates the set of actions that the researcher plans to carry out in the research study (Dixon et al., 2001 cited in Adam et al., 2018). According to Luse et al. (2012) concepts of the study can easily be specified and defined using the framework. It also underlines why the research issue is important to explore, a researcher's assumptions, the scholars with whom the researcher agrees and disagrees, and how the researcher conceptually underpins his or her methodology (Evans cited in Adam et al., 2018).

In previous section, the researcher has conducted comprehensive literature review in order demonstrate the need for the research study and to highlight how previous researches relate to the current study. In it, the researcher has examined the theories relevant to the uses and gratifications of media and the empirical studies which examined the relationship between different motivations, ESN use and employee job performance. The conceptual framework of the study was developed incorporating these theories and the findings of the previous literature in order to address the research gap identified and to achieve the research objectives. By taking the insights from the related literature in the social networks' domain, the researcher has identified the motivations that drive individuals to use enterprise social networks as independent variables. The analysis of the literature has provided pool of different motivations that drives employees to use ESN. For the purpose of this research, the researcher decided to select the top five constructs that have been cited most by the previous researchers. These constructs have been used by more than 30% of the previous researchers, indicating the importance attributed to these constructs. Therefore, the selection of five independent variables out of the fourteen variables can be justified. The five motivations of ESN use selected for the study were Information sharing, Information seeking, Self-documentation, Entertainment and Social interaction and they operate as independent variables of the study. Also considering the research objectives and the relationship established in empirical studies, the job performance was selected as the dependent variable, which was analysed in terms on in-role and innovative job performance.

Having identified the relevant independent and dependent variables, the conceptual framework of the study was developed, and it is depicted in Figure 3.2. The initial part of the framework was derived from the empirical findings based on the uses and gratification theory and extended the theory to examine the effect of ESN use on employee job performance. This conceptual framework is a unique framework which has not been tested earlier thereby contributing to the existing research and knowledge gap prevailing in this area.

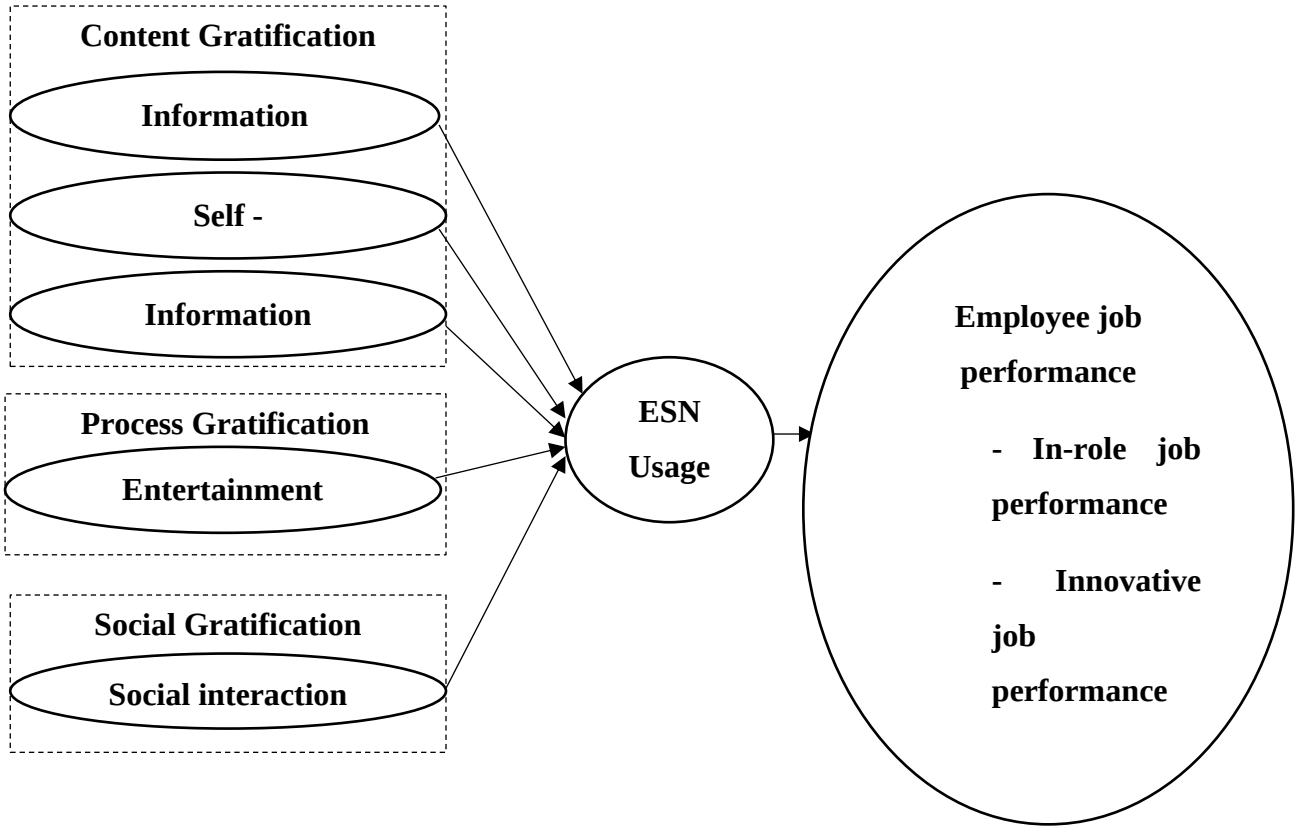

Figure 3.2: Conceptual framework

3.4. Hypotheses Development

The initial part of the conceptual framework was constructed based on Uses and Gratification Theory. As mentioned under literature review it basically focuses on three main gratifications that motivate people to use a particular communication media. This includes content gratification, process gratification and social gratification. The independent variables of the framework were derived considering these gratifications.

Information sharing and ESN usage

Information sharing can be defined as the extent to which the contents were exchanged, distributed and received by the user on media (Kietzmann et al., 2011). In this study, information sharing is regarded as posting the contents and commenting on the contents using enterprise social networks. According to Laitinen & Sivunen (2019), In organizations, information sharing on ESN is critical since it permit members to stay informed about organizational issues as well as share and preserve knowledge in a accessible platform. According to Liu & Bakici (2019), the information sharing has a

significant influence on ESN usage. Therefore, based on the existing literature it can be identified that there is a positive effect of information sharing on ESN usage. Therefore, the following hypothesis is proposed.

H1: There is a positive effect of information sharing motive on ESN usage

Self- documentation and ESN usage

Social media, especially the blogs can be used for the purpose of self-documentation as it can be used to document the own life, activities and events of the users (Nardi et al., 2004). Similarly, ESN allows the employees to document their daily activities such as what projects they are working on, what is the progress so far and so on. According to Liu & Bakici (2019), the persistent affordance associate with ESN allows employees to document their activities similar to blog. According to the studies conducted by Liu et al. (2016) and Liu et al. (2010) it was confirmed the significant association exist between self-documentation and social networks usage. Therefore, it can be identified that self-documentation creates a significant influence on ESN usage. Accordingly, the following hypothesis is proposed.

H2: There is a positive effect of self-documentation motive on ESN usage

Information seeking and ESN usage

According to Whiting & Williams (2013), information seeking can be defined as the use of media to seek out information or to self-educate. Gan & Wang (2015) identified information seeking as use of a particular media to acquire information that people are interested in. In this study we refer information seeking as the use of enterprise social media to search for information and to self-educate by the employees. As per the findings of Whiting & Williams (2013) and Gan & Wang (2015) the information seeking behavior significantly influence the ESN usage. Also the study conducted by Dhir & Tsai (2017) found that the information seeking gratification is acting as an strong predictor determining social networks' usage intensity. According to Treem & Leonardi (2013) the ESN may afford novel ways to seek information and the persistency and visibility affordances of the social media may result in more efficient seeking of information as it allows users to access to more knowledge sources.

Therefore, it is proposed that Information Seeking motive creates an impact on ESN usage. Accordingly following hypothesis is proposed.

H3: There is a positive effect of Information seeking motive on ESN usage

Entertainment and ESN usage

According to Whiting & Williams (2013), entertainment refers to the use of media to deliver enjoyment. Study done Liu & Bakici (2019) mentioned that the employees are encouraged to participate in such internal corporate communities facilitated via ESNs in order to have fun and enjoyment. According to Leftheriotis & Giannakos (2014); Liu & Bakici (2019) entertainment has positive influence on the usage of ESN. Therefore, following hypothesis is proposed.

H4: There is a positive effect of entertainment motive on ESN usage

Social interaction and ESN usage

Social interaction can be defined as the use of media to communicate and interact with others (Whiting & Williams, 2013). Social media develop new opportunities for social interactions via chatting, instant messaging, posting, rating, and commenting etc. (Liu & Bakici,2019). According to Boyd & Ellison (2007), ESN can create more comfortable environment by helping individuals who are less likely to maintain interactions to get connected with others. According to Leonardi et al. (2013), ESN contributes to the development of social capital within the organization as it allows employees to know what others are doing, and also to easily establish new connection with other employees. Prior studies have empirically validated the important role played by social interactions in influencing the use of enterprise social media (Whiting & Williams, 2013; Liu & Bakici, 2019). Therefore, following hypothesis is proposed.

H5: There is a positive effect of social interaction motive on ESN usage

ESN usages and Employee job performance

According to Lu & Pan (2013) ESM could serve as a platform through which implicit and explicit knowledge can be shared among employees. Also, it was identified that ESN make employee more efficient and give employees with more creativity and ideas

and help to gain knowledge and provide solutions to the problems. Therefore, it was identified that the use of the ESN can have positive influence on the employee job performance (Kuegler et al., 2015; Moqbel et al. 2017). The job performance can be measured using in-role job performance and innovative job performance. According to Moqbel et al. (2017), in-role job performance and innovative job performance can be considered as first order constructs since it reflects the employee job performance. Based on that the employee job performance is considered as second order construct. Therefore, the following hypotheses are proposed.

H6: There is a positive effect of ESN usage on employee job performance

H6a: There is a positive effect of ESN usage on employee in-role job performance

H6b: There is a positive effect of ESN usage on employee innovative job performance

3.5. Unit of analysis

According to Sekaran and Bougie (2016, p.103) unit of analysis refers to "the level of aggregation of the data collected during the subsequent data analysis stage". This may include individuals, dyads, groups, organizations or cultures. They have cited that the research question of the study determines the unit of analysis of the study. Since the sample size, data collection methods, and even the variables in the conceptual framework can sometimes be determined by the level at which data are aggregated for analysis, it is critical to choose the suitable unit of analysis for the study.

In this study research question focuses on identifying the motivations to use enterprise social networks by the employees in the software industry and how the use of enterprise social networks influences the employee job performance. Here, the research will be considering the data gathered from each individual employee and treating each employee's response as an individual data source. Hence the unit of analysis of this study is an employee who works in software industry using ESN at work.

3.6. Population and sampling

The population refers to the entire group of people, events, or things of interest that the researcher intends to investigate. It is the group of people, events, or things of

interest for which the researcher wants to make inferences (based on sample statistics) (Sekaran and Bougie, 2016, p. 236). The scope of the study in this research was limited to firms in the software industry. Since the researcher wants to examine the motivations to use the enterprise social networks and its effect of job performance, the population of the study represent the employees who work in the software industry and who use ESNs at work.

However due to the practical difficulty in covering the entire population, an appropriate sample should be selected to proceed with the study. A sample represent the subset of the population. The researcher should be able to draw conclusions that are generalizable to the population of interest by studying the sample (Sekaran and Bougie, 2016).

According to Sekaran and Bougie, (2016) there are two major types of sampling design as probability and non-probability sampling. In probability sampling there is a known chance or probability that the elements in the population may selected as sample subject. Probability sampling can be divided into simple random sampling, systematic sampling, stratified random sampling, cluster sampling and multistage sampling (Saunders et al., 2015). On the other hand, in non-probability sampling the elements in the population do not have known or predetermined probability of being selected as sample subject (Sekaran and Bougie, 2016). According to Saunders et al. non probability sampling techniques can mainly be classified into quota sampling, convenience sampling, purposive sampling and snowball sampling.

While probability sampling methods are used during the instances where the representativeness of the sample is important for the wider generalizability, the non-probability sampling methods are commonly used when time and other factors become critical rather than the generalizability (Sekaran & Bougie, 2016). Therefore, by considering the research constraints such as limited time and time constraint for data collection, this research selected one of the non-probability sampling technique to conduct the current study.

Accordingly, under non-probability sampling technique the researcher has selected both purposive sampling and snowball sampling as the sampling techniques of the study.

According to Sekaran and Bougie (2016), purposive sampling refers to obtaining information from specific target groups who are in a position to provide required information either because they are the ones who have that information, or they satisfy certain criteria set by the researcher. The sample of the study represent the employees working in the software industry using ESN at work. Therefore, in order to be a part of the study sample, the respondents need to satisfy two criteria; respondents need use ESN at work and need to work in the software industry. On that basis, the researcher can justify the use of purposive sampling as the sampling technique of the study.

As cited by Saunders et al. (2015), snowball sampling is used when it is difficult to identify the members of the target population. According to Johnson (2014) the snowball sampling approach involves two stages. At the first stage, it involves identification of the respondents possessing required characteristics. At the second stage it involves solicitation of referrals of other respondent with the similar characteristics. This process is repeated until required number of eligible respondents are found out.

The sample of the study represent the employees working in the software industry using ESN at work. Therefore, in order to be eligible for the study sample the employees need to work in the software companies and required to use ESN. Since the research do not have information on the companies using ESN, when finding out the eligible respondents first, the researcher contacted the employee working in the selected company or having knowledge about the particular company. Then an email invitation is sent to the contact person asking he or she to distribute the questionnaire among other colleagues in the respective organization. This process was repeated until the required number of responses were gathered. Therefore, the study employed snowball sampling technique.

In addition, sample size is one of the elements of the research design that need to be considered when the research is planned. According to Sekaran and Bougie, (2016)

there are several factors that need to be taken into consideration when determining the sample size. These factors include, the research objective, the extent of precision desired (the confidence interval), the acceptable risk in predicting that level of precision (confidence level), the amount of variability in the population itself, the cost and time constraints and in some cases, the size of the population itself. According to Hair et al. (2019) the absolute size of the sample should preferably be 100 observations or larger.

When considering this study, the population size is not specific since it is difficult to identify all the employees using ESN at work. Therefore, in order to determine the sample size, the researcher utilized the Danial Soper statistical method for A-priori Sample Size Calculator for Multiple Regression. This is used to calculate the minimum required sample size for a multiple regression study, given the desired probability level, the number of predictors in the model, the anticipated effect size, and the desired statistical power level (Soper,2021). According to Suresh & Chandrashekara (2012), the anticipated effect size refers to the expected difference or relationship existing between two independent samples. In determining the effect size, it is useful to use the effect size found from prior studies. According to Turner & Houle (2018, p. 1187) the statistical power level can be defined as the probability of discovering significant results from a statistical test when an effect truly exists. The number of predictors includes all the variables of the study which predicts the dependent variable. The probability level indicates the likelihood of incorrectly rejecting the null hypothesis when it is true (Hair et al., 2020, p. 361). When calculating the sample size for the study, the effect size was considered as 0.15 (medium effect), anticipated statistical power level was considered as 0.8 as the ideal power level for any study is considered to be 80% (Suresh and Chandrashekara, 2012), number of predictors were taken as six as the research includes six predictors namely information seeking, information sharing, self-documentation, entertainment ,social interaction, ESN usage and probability level was considered as 0.05 as the significance of $p = 0.05$ is the generally accepted probability level in social science research (Sekaran and Bougie, 2016). The sample size calculated using the Daniel Soper calculator is depicted in Figure 3.3

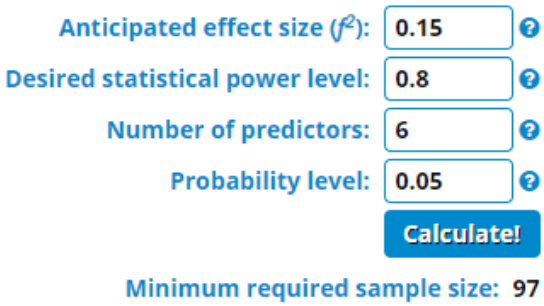

Figure 3.3:Daniel Soper sample size calculation

As per the calculation, the recommended minimal sample size of the study was generated as 97 respondents. Therefore, the researcher wanted to ensure that the number of responses collected for the analysis is above 97.

3.7. Questionnaire design and development

The questionnaire method was employed in order to collect the data from the target sample. According Sekaran and Bougie (2016), a questionnaire is a pre-formulated collection of questions to which respondents record their responses, usually within a defined alternative. The structured questionnaire was prepared using close ended questions which allows respondents to choose alternatives from a set of option provided by the researcher. It is a scientifically developed instrument to measure key characteristics of individuals, companies, events, and other phenomena (Hair et al. 2020, p.219). According to the author there are several activities that need to be considered when employing the questionnaire technique. These include the general design of the questionnaire, validation of the questionnaire by pretesting, and the method by which the questionnaire is administered. According to Rowley (2014, p. 309), when conducting quantitative research, questionnaires are usually employed. It allows researcher to profile the sample in terms of numbers or count the frequency of occurrence of opinions, attitudes, experiences, processes, behaviors, or expectations. In this study, the researcher has used a questionnaire in order to measure the perception of the employees of the uses and gratification received from the use of ESN and how ESN influence their job performance.

3.7.1. Scale of measurements

According to Sekaran and Bougie (2016, p.207), scale can be defined as a tool or mechanism by which individuals are distinguished as to how they differ from one another on the variables of interest to the study. There are four measurement scales namely, nominal, ordinal, interval and ratio. Nominal scale is where the researcher can assign subjects to certain categories of groups and there is no fundamental ordering to the categories such as gender and marital status. Ordinal scale categorizes the variable in a way that shows the difference between various categories and especially arrange the categories in a meaningful way representing rank order such as economic status, job level, etc. Interval scale represents equal values in the characteristics being measured or has constant and equal distances between values (Marateb et al., 2014). They can represent either positive or negative value. This may include temperature level etc. Ratio scale on the other hand similar to interval scale as it has equal distances between values but has a zero point which is a meaningful measurement point. Body temperature, weight, height etc. can be recorded in ratio scale.

In this questionnaire based on the questions covered the researcher has adopted different scales. The appropriate scales have been adopted based on the type of data that need to be obtained. In the questionnaire, questions related to the gender, functional area, type of ESN software used can be categorized as nominal scale as they represent categories which do not have any rank order (Sekaran and Bougie,2014; Marateb et al.,2014). The questions that were on the age of the respondents and experience with ESN can be categorized as of ratio scale as the responses contain answers with equal distance between values and it also contains zero as well (Sekaran and Bougie,2014; Marateb et al.,2014). The age and experience cannot fall below zero. The question on the job level can be categorized as ordinal measurement as it represent that rank order (Sekaran and Bougie,2014; Marateb et al.,2014). The items that were used to assess the respondents' perception on ESN use and its effect on job performance can be considered as interval scale as it represents the clear order which is ranked from strongly disagree to strongly agree. Also, it becomes customary in the business research to consider such rating scale as interval scale (Hair et al., 2020).

According to Hair et al. (2020), when interval scale is used by the researchers, they can use Likert scale to measure concepts such as attitudes, perceptions, feelings, and values. According to Sekaran and Bougie (2016), the Likert scale can be used to examine how strongly subjects agree or disagree with statements on a five-point scale with the anchors including "1- Strongly Disagree, 2- Disagree, 3- Neither Agree or Disagree, 4- Agree, 5- Strongly Agree". The main focus of this study was to measure the employee perceptions on the motivations that drives them to use ESN and how their ESN use affect job performance. Therefore, the researcher has adopted Likert scale as it measures the attitude or the perception of the respondents. Further, according to Taherdoost (2019) Likert scale is one of the popular and fundamental scaling methods used in the social science research. On the other hand, he has also specified that the Likert scale is easy to construct and more likely to generate a highly reliable scale. Also, it is suggested as easy to read and complete from the viewpoint of respondents (Taherdoost, 2019). Therefore, by considering these facts the use of Likert scale can be justified. Once the use of Likert scale is decided, it is essential to decide on the number of points on the scale. The original Likert scale included five symmetrical and balanced points s (Taherdoost, 2019). According to Hair et al. (2020), the seven- point Likert scale is also used more frequently similar to the five-point Likert scale. However, with the use of more points the researcher can get more precision with regard to the level of agreement with the statement. Hair et al. (2020) further confirmed that it is difficult to develop labels to the individual numbers when the scale points are larger than seven. According to Jones (1968 cited in Taherdoost, 2019) stated that the respondents' favoured 7-point scales and they have indicated that the use of 7-points are more accurate and interesting. Lewis (1993) mentioned that The observed significance level correlates more strongly with seven-point scales than with five-point scales. Also, compared to five point scales, the seven-point scales reflect respondents' true subjective evaluation of questionnaire items. Also, the seven- point Likert scale is considered as the best, accurate and easier to use (Diefenbach et al. cited in Taherdoost, 2019). Therefore, based on these justifications, the researcher decided to use a seven- point Likert scale for this study. Accordingly, "Strongly disagree =1", "Disagree = 2", "Somewhat disagree =3", "Neither agree or disagree =4", "Somewhat

agree = 5", "Agree =6" and "Strongly agree=7" were used as the anchors of the Likert scale of the study.

3.7.2. Item generation and operationalization

The next phase of the questionnaire includes the generation of the items to measure the constructs under examination. According to Rattray & Jones (2007), the generation of items requires considerable pilot work to refine wording and content. When developing a questionnaire, it develops questions or items which require the respondent to respond to a series of questions or statements. Further these items need to be operationalized the key concepts that are trying to address through the research questions and need to be relevant and acceptable to the target group of respondents (Mourougan & Sethuraman, 2017). The items can be generated from different sources in order to ensure the content or face validity. According to Mourougan & Sethuraman these sources may include consultation with experts in the relevant field, consultation with the selected respondents and review of related literature. More importantly the key strategy of item generation is to revisit the research question more frequently and ensure that the items reflect and remain relevant to the research questions (Oppenheim, 1992 cited in Rattray and Jones, 2007). Out of the different methods available for the item generation, the researcher has adopted the method of reviewing previous literature in generating the items which best suits with the constructs or variables identified in the study. First, the researcher conducted a comprehensive review of the literature which is associated with uses and gratification, social network use and job performance. The researcher has adopted the deductive approach in the process of item generation where theoretical definitions of the constructs are first developed thorough the literature analysis and next the item generation is conducted (Ford & Scandura, 2007). This approach requires an understanding of related literature and of the phenomenon to be investigated. This approach would be more appropriate when the theories exist in the relevant context (Hinkin et al., 1997). Accordingly, to employ the deductive approach, the researcher had to search for the articles which have used the constructs selected for the study and then identify the items adopted by the various researchers to measure the selected construct. Here, the researcher prepared a table listing the items adopted to measure each construct and analyzed the extent to which

the identified items have been adopted in previous studies in order to be selected for the study. The selected items were then revised to fit to the present context.

According to Sekaran and Bougie (2016, p. 221), content validity is essential during the item generation process. As explained by authors, a high level of content validity can be reached if the scale items represent the domain of the concepts being measured. Content validity confirms that the measure includes an adequate and representative set of items that represent the concept. It illustrates how well the dimensions and elements of the concept were explained. The main purpose of content validation is to reduce the potential error associated with the instrument operationalization in the initial stages and to increase the likelihood of achieving supportive construct validity in the later stages (Shrotryia & Dhanda, 2019, p.2). According to Hair et al. (2020) if any construct does not have items to measure it, then the scale would not have content validity. According to (Tojib & Sugianto, 2006) the literature review has been the preferred method in identifying domain and deriving the item to measure research domain. Therefore, a comprehensive analysis of the relevant literature can be used to ensure the content validity. In this study also an extensive literature analysis was conducted in generating relevant items for the study. In addition to that the developed questionnaire was further examined by two academics in the discipline with prior research experience in the relevant context. Therefore, it can be justified that the content validity is satisfied.

The number of items per construct can be recognized as another area that need to be considered during the process of item generation and operationalization. Even though there are no any specific rule on the number of items to be used with the construct, according to Thurstone (1947 cited in Hinkin et al., 1997), a measure needs to be internally consistent and it should comprise the minimum number of items that adequately assess the domain of interest. In this study researcher has used total of 39 items to measure all the constructs of the study. Information sharing included 4 items, self-documentation included 3 items, information seeking included 5 items, entertainment included 5 items, social interaction included 7 items, ESN use included 5 items, in-role job performance included 4 items and innovative job performance included 6 items. Therefore, it has used a minimum of 3 or more items to measure each

construct. The use of three or more items can be justified as it is said that the good practice is to use a minimum of three items per construct in order to provide minimal coverage of its theoretical domain and to provide adequate identification. (Hair et al., 2019).

The operationalization of constructs/variables of this research with measurement items are depicted in Table 3.1.

Table 3.1:Operationalization of constructs

Construct	Measurement Items	Source
Information sharing	1. I use ESN to provide information 2. I use ESN to share information useful to other people 3. I use ESN to present information on my interests 4. I use ESN to create content in collaboration with colleagues	Liu & Bikeci (2019); Gan & Lee (2018); Alhabash & Ma (2017); Liu et al. (2016); Ali-Hassan et al. (2015); Kugler & Smolnik (2014); Alhabash et al. (2014); Smock et al. (2011); Liu et al. (2010)
Self-documentation	1. I use ESN to keep a record of what I learn 2. I use ESN to document my work 3. I use ESN to keep track of what I am doing	Liu & Bikeci (2019);Hossain, (2019); Liu et al. (2016); Ali-Hassan et al. (2015); Kugler & Smolnik (2014)
Information seeking	1. I use ESN to obtain work related information and knowledge 2. I use ESN to search work related information and knowledge 3. I use ESN to access content created by my colleagues 4. I want to obtain useful information 5. I want to obtain new information	Liu & Bikeci (2019); Gan & Li (2018); Alhabash & Ma (2017); Liu et al. (2016);Alhabash et al. (2014) ;Liu et al. (2016)

Entertainment	1. I use ESN because it is enjoyable 2. I use ESN to take a break from work 3. I use ESN because it enables me to pass the time, especially when I'm bored 4. I use ESN to relax at work 5. I use ESN to exchange (i.e. consume and/or contribute) entertaining content through the platform	Liu & Bikeci (2019); Hossain, (2019); Gan & Li (2018); Alhabash & Ma (2017); Liu et al. (2016); Ali-Hassan et al. (2015); Chiu & Huang (2015); Kugler & Smolnik (2014); Alhabash et al. (2014); Smock et al. (2011); Liu et al. (2010)
Social Interaction	1. I use ESN to connect with colleagues 2. I use ESN to communicate with colleagues 3. I use ESN to create new relationships at work 4. I use ESN to get acquainted with colleagues who share my interests 5. I use ESN to get to know people I would otherwise not meet at work 6. I use ESN to maintain close social relationships with people at work 7. I use ESN to discover colleagues with interests similar to mine	Liu & Bikeci (2019); Hossain, (2019); Gan & Li (2018); Alhabash & Ma (2017); Liu et al. (2016); Ali-Hassan et al. (2015); Chiu & Huang (2015); Kugler & Smolnik (2014); Alhabash et al. (2014); Smock et al. (2011); Liu et al. (2010)
ESN usage	1. I use the ESN very frequently to support my work 2. I like to use ESN 3. I use the ESN very intensively to support my work 4. I depend upon the ESN 5. Overall, I use the ESN a lot	Almaiah & Alyoussef (2019); Wang et al. (2014); Nwankpa & Roumani (2014); Sun et al. (2009); Sundaram et al. (2007)

In-role job performance	1. I always complete the duties specified in my job description 2. I meet all the formal performance requirements of my job 3. I fulfill all responsibilities required by my job 4. I never neglect aspects of the job I am obligated to perform	Deng et al. (2021); Chen et al. (2019); Moqbel et al. (2017); Ali-Hassan et al. (2015); (Dizgah et al., 2012); Janssen & Van Yperen, (2004)
Innovative job performance	1. I always create new ideas for improvements 2. I generate innovative solutions to problems 3. I search out new working methods, techniques, or instruments 4. I transform innovative ideas into useful applications 5. I acquire management approval for innovative ideas 6. I produce innovative ideas for work improvement more often	Chen et al. (2019); Moqbel et al (2017) ; Ali Hassan (2015); Kuegler et al. (2015)

Once the item generation and operationalization of the constructs were developed, the structured questionnaire was developed. At the beginning of the questionnaire, an introduction was given providing basic information about the researcher, the purpose of the research, the nature of the participants and the ethical guideline. The rest of the questionnaire consisted of four sections, as explained below.

The first section covered the demographic questions which included the gender, age of the respondents, the functional area they are working in, number of employees in the company, job level, type of ESN they are using and their experience with the ESN. These questions were considered for the study as they were important to get an overview on the context in which this research study is done. This section contained both open-ended and close-ended questions. Further, according to Sekaran and Bougie (2016) it is advisable to collect demographic data such as age, sex, educational level,

job level, department, and number of years in the organization even they are not essential for the theoretical framework. However, such data may help the describe the sample characteristics. The demographic questions were introduced at the beginning of the questionnaire because when respondents share their personal data, they may have psychologically linked themselves with the questionnaire, and may feel a commitment to respond it (Sekaran and Bougie, 2016).

The second section of the study focused on the gratifications that induce the employees to the use ESN. In this section, the measurement items were included to measure the employees' perception about the constructs namely, information seeking, information sharing, self-documentation, entertainment and social interaction.

The third section of the questionnaire is on ESN use. This section included the measurement items that can be used to measure the employee perception on the use of ESN.

The fourth section mainly focused on employee job performance. Accordingly, the measurement items were included to measure the in-role job performance and innovative job performance of the employees.

3.7.3. Pretesting the questionnaire

According to Presser & Blair (1994), pretesting is considered as an indispensable stage in questionnaire development. Pretesting can be defined as the test that is used to evaluate the appropriateness of the measurement items and their comprehension (Sekaran and Bougie, 2016). According to Hair et al. (2019), it is necessary to preform pretesting when new measurements are developed for the study or taken from the various sources. Conducting a preset is important as it allows researcher to correct any issues before directing the instrument to respondent orally or through a questionnaire, thereby reduces bias (Sekaran and Bougie, 2016). Also, pretesting is important when scales are applied in unique contexts or in contexts where they are not normally used (Hair et al., 2019).

According to Presser and Blair (1994) there are different pretesting methods such as conventional pretests, behavioral coding, cognitive interviews, and expert reviews. An

expert review is considered to be a traditional method of pretesting (Ikart, 2019). Expert review is recognized as the best practice in pretesting when the critical review of the questionnaire by experts prior to the actual implementation may result in improving the overall quality of the questionnaire (Forsyth & Lessler, 1991 cited in Willis et al., 1999). According to Presser and Blair (1994), expert review is considered as the most productive method of pretesting. In expert review, the researchers asked subject matter experts who have theoretical questionnaire knowledge and/or practical experience, to review draft questionnaires and to provide feedback about the questions. This allows researcher to identify issues in questionnaire, potential measurement errors or a breakdown in question answering process (Olson, 2010). Considering these facts, the expert reviews were considered as the most suitable technique for pretesting the questionnaire. Once the questionnaire items were developed the researcher selected two academics who are having have expertise in questionnaire development to get their feedback on the appropriateness and validity of the questionnaire items.

The pretest was undertaken in several rounds where at each round the questionnaire was improved based on the expert reviews. During the initial round, the academics gave their opinion on how the items should be reworded to maintain the consistency. For an example, in measuring entertainment, most of the items were written as “I use ESN to take break from work”, “I use ESN to relax at work” etc. However, there was a measurement item which was written as “Using ESN is enjoyable”. Based on the expert opinion this was reworded as “I use ESN because it is enjoyable” to keep the statements in the same pattern to make it easy for respondents to understand. Accordingly, all the statements that required such change were reworded. Also, certain demographic variables were added to the study based on the expert opinion. The variables that include the job level, functional area and the number of employees were added to the questionnaire based on the expert opinions received.

During the next round, based on the expert reviews certain items were removed from the questionnaire since they provided almost the same meaning. For an example for the information seeking construct the researcher has selected two measurement items; “I use ESN to obtain useful information” and “I want to obtain helpful information”. Since both the items are likely to provide the same meaning, during the latter rounds

"I want to obtain helpful information" was removed from the questionnaire. Similarly, all the items that are likely to provide such similar meaning were removed from the questionnaire. These are the improvements made to the draft questionnaire before proceeding with the next steps of the study.

3.7.4. Pilot Study of the questionnaire

According to Hair et al. (2020, p.297), pilot study can be defined as a pretest that involves refining or developing a scale to measure a construct. In pilot study the researcher collects the data from a sample which represent final respondent. The pilot study allows researchers to assess the reliability and validity of the questionnaire and also to modify the questionnaire as needed (Hair et al. 2020). As cited by Saunders et al. (2015), the main purpose of pilot test is to refine the questionnaire to ensure that the respondent will not have any problems in answering the questions and recording the data. Pilot testing is conducted to assess the entire questionnaire under actual survey conditions which assist in identifying the issue before large scale survey is undertaken (Chaudhary & Israel, 2020). Fink (2017) stated in his book that, as the self-administered questionnaires heavily depend on the clarity of their language, the pilot testing would help to understand whether respondents understand the directions the researcher has provided and whether they can answer the survey questions. On the other hand, pilot testing allow researcher to identify the total time taken to complete the survey and it allows survey to run smoothly. It was further stated by Fink that pilot testing helps to increase the response rate as it eliminates severe issues in the questionnaire such as poorly worded questions and it carefully test the entire survey procedure.

When conducting the pilot study, it is important to identify the minimum number of responses need to be collected to generate valid results. According to Fink (2017), for most of the student questionnaires, the minimum number for a pilot study is 10. Considering this, 20 respondents were selected for the pilot study and only 16 responses were usable for the analysis.

Once the data were collected through the pilot study, these were fed to the Smart PLS statistical tool. In order to conduct the data analysis, an item code was assigned to each

item of each constuct/variable. Accordingly, Information Sharing was coded as “IS” and the four items were coded as “IS_1”, “IS_2”, “IS_3”, “IS_4” respectively. Self-documentation was coded as “SD” and its three items were coded as “SD_1”, “SD_2”, “SD_3”. Information seeking which consisted of 5 items was coded as “ISe” and the items were coded as “ISe_1” , “ISe_2” and etc. Entertainment was coded as “E” and the five items were coded as “E_1”, “E_2”, “E_3” and etc. Social interaction was coded as “SI” and the 7 items were coded as “SE_1”, “SE_2”, SE_3” and etc. respectively. ESN usage variable with 5 items was coded as “EU” and the items were coded respectively as “EU_1”, “EU_2”, “EU_3” and so on. Finally, the In-role performance with four items was coded as “InP” and items were coded as “InP_1”, InP_2”, “InP_3” etc. The innovative performance was coded as “IP” and the six items were coded as “IP_1”, “IP_2”, “IP_3” and so on.

The analysis was performed using PLS-SEM with the support of Smart PLS software (Refer Figure 3.4).

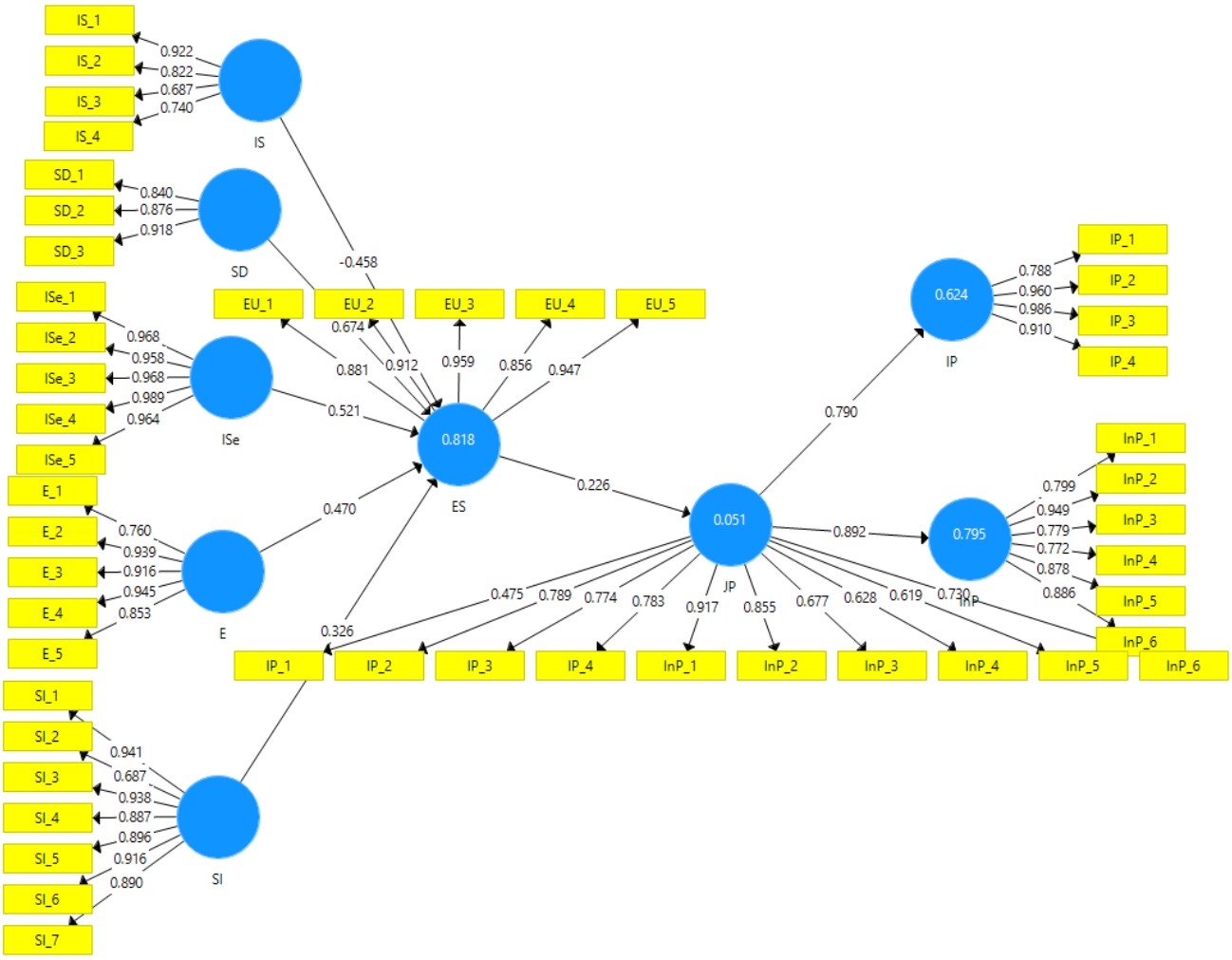

Figure 3.4:Measurement model of pilot study

Source: Pilot survey data

The main purpose of the pilot test was to verify the to the reliability and validity of the data. The reliability can be defined as the extent to which a variable or set of variables is consistent in what is being measured (Hair et al., 2019). The internal consistency reliability can be used to identify the consistency among the variables in a summated scale. This can be measured using Cronbach Alpha and Composite reliability. According to Hair et al. (2019). the lower limit for Cronbach's alpha and Composite reliability is 0.70. When considering the pilot test data it was observed that the Cronbach alpha and composite reliability values of the constructs are above the

threshold level of 0.7 (Hair et al., 2014) and therefore the internal consistency is established (ReferTable 3.2)

Table 3.2:Reliability and convergent validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
Entertainment	0.931	0.947	0.784
ESN usage	0.949	0.961	0.832
Innovative job performance	0.934	0.953	0.836
Information Sharing	0.830	0.874	0.636
Information Seeking	0.985	0.987	0.940
In-role job performance	0.920	0.938	0.717
Self-documentation	0.853	0.910	0.772
Social interaction	0.951	0.961	0.780

Source: Pilot survey data

According to Hair et al. (2019), validity can be identified as the extent to which the indicators of constructs measure what they are supposed to measure. Here, the researcher considered convergent validity and discriminant validity measures.

Convergent validity can be defined as the extent to which a measure positively correlates with alternative measures of the same construct (Hair et al., 2014). This is measured using Average Variance Extracted (AVE). The general rule for an acceptable AVE is 0.50 or higher (Hair et al., 2019). According to the pilot study, AVE values of all the constructs were greater than 0.5 (Refer Table 3.2). Therefore, the convergent validity is established.

Discriminant validity can be identified as the extent to which a construct is truly distinct from the other constructs (Hair et al., 2014). Discriminant validity is satisfied when the shared variance within a construct (AVE) always exceeds the shared variance with all other constructs. According to Hair et al., (2019) commonly used criteria to measure discriminant validity is Fornell–Larcker criterion which compares the average variance-extracted values for any two constructs with the square of the correlation estimate between these two constructs. The variance-extracted estimates (AVEs) (shared variance within) should be greater than the squared inter-construct correlation

estimate (Hair et al., 2019, p.788). The results of the pilot study indicated that the diagonal values were greater than the off diagonal value of each construct. Accordingly, the discriminant validity was satisfied (Refer Table 3.3). Therefore, considering the results of the pilot test, it could be confirmed that the reliability and validity of the constructs were established.

Table 3.3:Discriminant validity – Fornell-Larcker criterion

Construct	E	ES	IP	IS	ISe	InP	SD	SI
E	0.885							
ES	0.686	0.912						
IP	-0.130	0.111	0.914					
IS	0.561	0.641	-0.192	0.798				
ISe	-0.120	0.124	-0.038	0.449	0.970			
InP	0.443	0.247	0.427	-0.155	-0.235	0.847		
SD	0.467	0.766	0.406	0.593	-0.092	0.103	0.878	
SI	0.677	0.643	-0.130	0.621	-0.222	0.318	0.593	0.883

Source: Pilot survey data

Apart from establishing the reliability and validity of the constructs, several items in the questionnaire were reworded to improve the clarity and understandability of them based on the feedback received from the participating respondents to the pilot study.

3.8. Methods of Data Collection

Data collection is an important aspect of the research design. Data collection is basically categorized into two categories; primary data collection and secondary data collection (Saunders et al., 2015). According to Sekaran & Bougie (2016) primary data collection methods involve gathering data from original sources for the specific purpose of the study. Secondary data collection methods involve gathering information from the sources that have been gathered by others for purposes other than current study (Sekaran and Bougie, 2016). Primary data collection methods include surveys, interviews, observation etc. and secondary data collection methods include journal articles, books, government publications, newspapers etc. According to Kabir (2016)

primary data is more reliable, authentic, and objective since it is not published yet. He further stated that the validity of the primary data is greater than secondary data as the primary data has not been changed by the human beings. This research employed both the primary and secondary data techniques in order to collect necessary data for the research.

According to Hair et al. (2020), the data collection process begins by examining secondary data. This research has employed secondary data collection in order to find answers to some of the research problems. One of the objectives of this study was to identify the gratifications that motivate employees to use ESN. The researcher has used previous research articles in order to identify those motivations. In order to access previous research articles, the researcher searched inside a couple databases like Emerald Insight and ScienceDirect. In addition, the researcher conducted web search in Google and Google scholar. During the whole searching process, the researcher used several key words to identify the relevant articles which included gratifications or motivations to use ESN. For an example the researcher used key words like Uses and Gratification, Uses and Gratification+ ESN, Motivations+ ESN, Uses and Gratification + Social networks, Uses and Gratifications + Social media etc. to search relevant articles. The articles found through this process were then screened based on the titles of research articles. And then the abstracts of the selected articles were carefully reviewed to determine the suitability of them for the study. Also, certain articles were manually searched based on the reference list of a selected article. This systematic process of literature review assisted the researcher in identifying a wide range of articles examining the motivations or gratifications to use ESN.

One of the objectives of the study was to identify the relationship existing between different gratifications and ESN use on one hand and ESN use and in-role and innovative job performance. The data required to test these relationships were collected using primary data collection methods as it is more reliable and objective (Kabir, 2016). Therefore, the structured questionnaire survey was used as the primary data collection technique of the study. The questionnaire of the study was prepared as an electronic questionnaire using google forms as it facilitates more convenience and

quick distribution of the questionnaire. Once the respondents are selected, the online questionnaire invitation can easily be shared among the respondents to get the responses. Since the sample of the study represent the employees working in the software industry using ESN at work, the researcher had to search for the software companies which used ESN before distribution of the questionnaire. This was done using someone working in the selected company or someone having knowledge about the particular company. Once organizations using ESN at work were identified, an email invitation was sent to a contact person in the organization and he or she was asked to distribute it among the colleagues. This technique was used to increase the number of responses from a selected organisation.

3.9. Method of Data Analysis

Once the data is collected from the target respondents the next step involves the analysis of data in order to address the research questions developed at the initial stage of the research.

For the purpose of data analysis, the researcher has utilized two statistical software namely, Statistical Package for the Social Sciences (SPSS) and SmartPLS. Before the analysis, there are several other steps need to be undertaken in order to ensure the accuracy, suitability, and completeness of the data for the further analysis (Hair et al.,2020). At the initial stages the inappropriate and incomplete questionnaires were ignored. Next, SPSS was used for the purpose of data cleaning, demographic analysis, descriptive statistical analysis and multivariate assumptions testing.

After that process, the structural equation modeling (SEM) was adopted for the purpose of comprehensive data analysis. SEM is a technique which allows separate relationships for each of the dependent variables (Hair et al.,2019, p.27). SEM provides a suitable and efficient estimation technique for separate multiple regression equations estimated simultaneously. SEM is a mixture of two statistical approaches: exploratory factors analysis and structural path analysis which allows simultaneous assessment of structural model and path model. Moreover, compared to multiple regression the variance explained in the dependent variable is larger when using SEM as it accounts for both direct and indirect effects. (Lee et al. cited in Hair et al., 2017).

According to Hair et al. (2019, p.27), there are two components of the SEM namely, structural model and measurement model. The structural model is the path model, which relates independent to dependent variables whereas the measurement model allows researcher to use several indicators for a single independent or dependent variable. According to Hair et al. (2014), there are two types of SEM namely, Covariance-based SEM (CB-SEM) Partial Least Square based SEM (PLS-SEM). Covariance based SEM is used to confirm or reject theories by determining how well proposed model can estimate the covariance of the sample data. On the other hand, PLS-SEM is used to develop theories in exploratory research. According to Wong (2013) CB-SEM is widely applied in software packages such as AMOS, EQS, LISREL and MPlus whereas the PLS -SEM is applied using PLS-Graph, VisualPLS, SmartPLS, and WarpPLS.

In order to conduct the analysis of the study the researcher used PLS-SEM due to several reasons. According to Hair et al. (2017), PLS-SEM enables research of many indicator items which supports both measurement and structural theory development. PLS-SEM is preferred over CB-SEM when correct model specification cannot be ensured (Wong, 2013). Also, comparison of the R^2 output of the two methods indicates that the PLS-SEM is the preferred method as the variance explained in the dependent variables is substantially higher. According to Hair et al (2014), PLS-SEM works more efficiently with small sample size while CB- SEM is applied when sample size is large (Wong, 2013). Due to the COVID-19 pandemic, reaching and accessing individual respondents was difficult. Further, due to time constraints, only a couple of months could be allocated for the data collection process. These constraints resulted in collecting only 146 responses for data analysis. Given this sample size, the use of PLS-SEM can be justified. Further, it is apparent that there are many other previous researchers who have used PLS-SEM for their research in similar contexts (Ali-Hassan et al., 2015; Liu et al., 2016; Gan & Li, 2018; Meske et al., 2019; Sun et al., 2020). Therefore, PLS-SEM method was adopted by the researcher and SmartPLS statistical software was used as the data analytical tool.

3.10. Summary

This chapter provided an understanding of the comprehensive methodology followed throughout the research study. Initially it provided an introduction on overall research design including research philosophy, research approach, research strategy and research choice. Next it included the conceptual framework and hypotheses development which were conducted based of the previous literature. The chapter also consisted the explanation on unit of analysis, population and sample of the study. Further, the process of questionnaire development is explained using item generation and operationalization, pretest and pilot testing. Last sections of the chapter discussed on the method of data collection and method of data analysis selected for the study.

4. DATA ANALYSIS AND DISCUSSION

4.1. Introduction

Having completed the data collection, the analysis was undertaken in order to achieve the preset objectives of the research. This section of the study mainly focuses on analysing the data and interpreting the findings derived through the analysis. The initial part of the study focuses on areas such as the data cleaning process, the demographic profiles of the respondents, descriptive statistics of variables, statistics for common method bias, testing normality and multicollinearity, validation of measurement model and hypotheses testing. Thereafter, based on the results, the discussion of the findings was undertaken with the support of empirical findings.

4.2. Data Cleaning process

Data cleaning can be identified as a process of detecting and removing errors and inconsistencies from data in order to improve the quality of data (Rahm & Do, 2000). According to Osborne (2010), it is crucial to perform data cleaning in order to ensure that the conclusions derived from the data are generalizable as much as possible.

In this study, the initial plan was to collect at least two hundred responses with the intention of increasing the generalizability of the results. With that expectation, the researcher emailed the questionnaire to the identified individuals working in many large software companies in Sri Lanka and encouraged them to share the questionnaire with their colleagues as much as possible. The data collection process continued for around two months and at the end of the process one hundred and sixty-eight (168) responses had been received. Out of all the responses, there were twenty-two (22) respondents who did not have experience with ESN. Since the sample had to consist of employees in software companies using ESN, those responses were dropped from further analysis. This left the researcher with a total of one hundred and forty-six (146) responses. The researcher next examined for the existence of responses with missing values. However, it was found out that there were no questionnaires with missing values. Thereafter, the data cleaning process was started by entering data into the SPSS software with the indicator codes explained in section 3.7.4 in Chapter 3.

Testing for outliers need to be undertaken as a part of data cleaning phase of the research project (Hair et al., 2020). According to Sekaran & Bougie (2016), an outlier can be defined as an observation that is considerably different from other observations. Existence of outliers may distort the interpretation of data or make the statistics misleading (Saunders et al., 2015). It is important to detect these outliers and correct them as outliers can make significant influence on the research results (Sekaran & Bougie, 2016). According to Sekaran and Bougie, box plot or scatter plot would be the best methods to detect for outliers in ratio or interval scale data. Therefore, the researcher used boxplot to detect the outliers. It was observed that all the variables except self-documentation and entertainment presented with outliers (Refer Appendix A- Figure 1,2,3,4,5,6,7,8) According to Hair et al. (2019), the deletion of outliers from the dataset cannot always be recommended. If the outliers demonstrate representative elements of the populations, they should be retained in order to ensure the generalizability to the entire population. In other words, if an outlier is deleted there is a risk of limiting the generalizability of findings. Therefore, by considering the nature of the present study where perceptions of individuals were assessed, it was decided to retain the outliers for further analysis. As a result, one hundred and forty-six (146) responses were considered for the descriptive and SEM analysis. The demographic profiles of the remaining respondents were analysed in the next section.

4.3. Demographic profile of the respondents

The term demographic can be defined as the characteristics of the study population (Salkind, 2010). According to this author demographic information in a research study provides the data about the research participants. Analysis of the demographic profile of the sample is important as it helps to determine whether individuals in a particular study are a representative sample of the target population for the purpose of generalization (Salkind, 2010). The demographic data of this study were gathered on the gender, age, functional areas, job level of the respondent, the types of ESN software used by the respondents and respondents' experience with the ESN. Thus, this section provides analysis on the demographic profiles of the respondents of the study.

4.3.1. Gender of respondents

Out of all the respondents, eighty (83) respondents were males, and sixty-two respondents (63) were females which accounted for 56.8% and 43.2% respectively. The results related to the gender analysis is depicted in Table 4.1.

Table 4.1: Gender of respondents

Gender		
Description	**Frequency**	**Valid Percentage**
Male	83	56.8
Female	63	43.2
Total	146	100.0

Source: Survey data

4.3.2. Age of respondents

When analyzing the age category of the respondents, it was observed that there were 11% respondents who fall below age 25, 71.9% respondents between age of 26-35, 15.8% respondents between the age of 36-45 and only 1.4% respondents above the age of sixty. The results related to the age analysis is depicted in Table 4.2.

Table 4.2: Age of respondents

Age category		
Description	**Frequency**	**Valid Percentage**
Below 25 years	16	11.0
26 – 35 years	105	71.9
36 – 45 years	23	15.8
Above 56	2	1.4
Total	146	100.0

Source: Survey data

4.3.3. Job-levels of respondents

Among the 146 respondents, 9.6% were belong to the Senior management category, 39.7% were belong to the middle management category, 12.3% were belong to the lower-level management and 38.4% were operational level employees. The analysis of respondents' job level is depicted in Table 4.3.

Table 4.3: Job levels of respondents

Job level		
Description	**Frequency**	**Valid Percentage**
Senior level management	14	9.6
Middle level management	58	39.7
Lower level management	18	12.3
Operational level employees	56	38.4
Total	146	100.0

Source: Survey data

4.3.4. Job functions of respondents

As per the results, out of the total respondents there were 79.5% employees representing the information technology functional area, 11.6% representing the sales and marketing function, 4.2% representing the accounting and finance function, 2.1% representing the human resources function and 2.1% from the other functional areas such as consulting, quality assurance etc. The results related to the respondents' job functions is depicted in Table 4.4.

Table 4.4: Job functions of respondents

Functional area		
Description	**Frequency**	**Valid Percentage**
Information technology	116	79.5
Sales and marketing	17	11.6
Accounting and Finance	7	4.8
Human resources	3	2.1
Other	3	2.1

4.3.5. Type of ESN used by respondents

Another demographic factor observed was the types of the ESN used by the employee. Out of the total of 146 employees, there were 28.7% employees using Yammer, 35.4% using Workplace by Facebook, 25% employees using Slack, 0.6% using Chatter and 3.7% were using other types of ESN software. Also, there were 6.7% employees who don't know the name of ESN they are using at work. Results relevant to the types of ESN used by the respondents is depicted in Table 4.5.

Table 4.5: Types of ESN used by respondents

Type of ESN		
Description	**Frequency**	**Valid percentage**
Yammer	47	28.7%
Workplace by Facebook	58	35.4%
Slack	41	25.0%
Chatter	1	0.6%
Other	6	3.7%
Don't know	11	6.7%
Total	164	100.0%

Source: Survey data

4.3.6. Experience of employees with ESN

Experience of employees with ESN was also analysed. As depicted in the Table 4.6, a total of 18.5% employees have less than 1year experience, 42.5% employees have 1-3 years' experience, 28.1% employees have 3-5 years' experience, 6.2% employees have 5-7 years' experience, and 4.8 % employees have more than 7 years' experience.

Table 4.6: Experience with ESN

Experience with ESN		
Description	**Frequency**	**Valid percentage**
Less the 1 year	27	18.5
1-3 years	62	42.5
3-5 years	41	28.1
5-7 years	9	6.2
More than 7 years	7	4.8
Total	146	100.0

Source: Survey data

4.4. Descriptive Statistics

Descriptive statistics can be used to describe and compare the variables numerically (Saunders et al., 2015). According to Hair et al. (2020), descriptive statistics generally include frequency counts, measures of central tendency such as mean, median and mode and measure of dispersion (variation) such as the standard deviation. The study has used mean as the measure of central tendency and standard deviation as measure of dispersion. This is because the Likert scales are identified as interval measurements and descriptive statistics recommended for interval scale are mean for central tendency and standard deviation for variability (Boone & Boone, 2012). Mean can be defined as the average of all the data values and Standard deviation on the other hand measure to what extent values differ from the mean (Saunders et al., 2015). The mean and standard deviation of variables and measurement items are depicted in Table 4.7 and Table 4.8.

When considering the mean values of constructs, it can be observed that the in-role job performance, innovative job performance and information seeking were having the highest mean values and entertainment and self-documentation were having the lowest mean values. The items' mean values of in-role job performance were varied from 5.95 to 6.05. In innovative performance mean values were ranged between 5.62 and 5.78. The mean value of Information seeking was recorded as 5.62 whereas its items' mean values were deviated 5.49 to 5.68. The items' mean values of ESN usage were

varied from 4.74 to 5.63. Information sharing items' mean values were varied from 5.16 to 5.52. In social interaction, items' mean values were ranged from 4.74 to 5.38. The item mean values of were ranged from 4.35 to 4.86. The mean value of self-documentation was calculated as 4.47 and the items' mean values were ranged from 4.40 to 4.61. When considering the mean value range of all the items it was clear that most of the responses were inclined toward agreed side of the scale.

As indicated in Table 4.7, it can be observed that self-documentation, entertainment and social interaction had higher standard deviations while innovative job performance and in-role job performance had lower standard deviation values. According to Andrade (2020), the low value standard deviation indicates that the observed values are scattered around the mean whereas high standard deviation indicated that the observed values are scatter away from the mean. Therefore, the items with higher standard deviation values such as the responses relevant to items of self-documentation, items of entertainment indicated high level of dispersion from the items' mean. The responses of in-role job performance, innovative job performance items indicated low level of dispersion from the items' mean values.

Table 4.7: Construct Mean and Standard deviation values

Description	**N**	**Mean**	**Std. Deviation**
In-role job performance	146	5.9932	0.97819
Innovative job performance	146	5.7180	0.96541
Information seeking	146	5.6219	1.23090
ESN usage	146	5.3589	1.19998
Information sharing	146	5.3476	1.36785
Social interaction	146	5.2299	1.40095
Entertainment	146	4.6219	1.46351
Self-documentation	146	4.4726	1.59345

Source: Survey data

Table 4.8: Item wise mean and standard deviation values

Variable		Item	N	Mean	Std. Deviation
In-role job performance		InP_1	146	5.95	1.167
		InP_2	146	5.95	1.016
		InP_3	146	6.05	1.056
		InP_4	146	6.03	1.044
Innovative job performance		IP_1	146	5.73	1.086
		IP_2	146	5.78	1.073
		IP_3	146	5.78	1.027
		IP_4	146	5.72	1.022
		IP_5	146	5.62	1.128
		IP_6	146	5.68	1.029
Information seeking		ISe_1	146	5.62	1.330
		ISe_2	146	5.49	1.361
		ISe_3	146	5.67	1.287
		ISe_4	146	5.66	1.267
		ISe_5	146	5.68	1.349
ESN Usage		EU_1	146	5.63	1.297
		EU_2	146	5.56	1.248
		EU_3	146	5.48	1.330
		EU_4	146	4.74	1.439
		EU_5	146	5.38	1.491
Information sharing		IS_1	146	5.36	1.517
		IS_2	146	5.52	1.391
		IS_3	146	5.16	1.479
		IS_4	146	5.36	1.480
Social interaction		SI_1	146	5.38	1.568
		SI_2	146	5.38	1.641
		SI_3	146	5.17	1.586
		SI_4	146	5.13	1.514
		SI_5	146	5.29	1.486
		SI_6	146	5.16	1.640
		SI_7	146	5.09	1.513
Entertainment		E_1	146	4.75	1.512
		E_2	146	4.69	1.591
		E_3	146	4.35	1.708
		E_4	146	4.46	1.615
		E_5	146	4.86	1.725
		SD_1	146	4.41	1.622

Self-documentation	SD_2	146	4.40	1.704
	SD_3	146	4.61	1.843

Source: Survey data

4.5. Common method bias

Simply, common method bias means the relationships existing among variables or constructs are influenced by the data collection method (same collection method, questionnaire format or scale type). It indicates that the covariance among measured items is influenced due to the fact that few or all of the responses are collected with the same type of scale (Hair et al., 2019). According to Podsakoff et al. (2003), such method biases can be considered as problems since they are one of the main sources causing measurement error which may threaten the validity of the conclusions about the relationship between measures. Common method variance can either inflate or deflate observed relationships between constructs which leads to both type I and type II errors (Podsakoff et al., 2003)In their study, Podsakoff et al. (2003) identified the sources which can cause common method bias. In it important to identify these sources as it can create serious effect on findings of the study. According to Podsakoff et al. (2003), one such source is the common rater effect which indicates the respondent who provides the measures of predictor and criterion variable is the same person. Another source of common method bias would be the item characteristics effect which is produced by obtaining the measure from the same source. Item context effect is another source of common method bias. This can be occurred as a result of context in which the items on a questionnaire are placed. Further it was identified that the measurement context effect as a source of common method bias which refers to the broader research context in which the measures are obtained. As cited by Podsakoff et al. there is a possibility to exist several of these factors in any given study. Therefore, in order to assess the extent to which this method bias can be a problem, it is crucial to evaluate the conditions under which the data is obtained. They have further identified that the method biases are likely to be powerful in studies in which data for both the predictor and criterion variable are obtained from the same person in the same measurement context using the same item context and similar item characteristics.

Once a situation which may likely to present common method bias is identified, it is important to develop procedures to minimize their impact.

Podsakoff et al. (2003) proposed several procedural remedies to minimize such common method biases. It was recommended to obtain the measures of predictor or criterion variable from different sources. However, this remedy is not feasible for all studies. Therefore, another suggestion proposed is to separate the measurement of predictor and criterion variable (Podsakoff et al., 2003). As explained by Podsakoff et al., there are certain remedies that can be used to reduce common method biases during response editing or recording stage. These may include allowing respondents' answers to be anonymous and assure respondents that there are no any right or wrong answers and they need to answer questions as honestly as possible. Such actions may reduce respondents' evaluation anxiety and make them less likely to edit their responses to be more socially desirable and make them consistent with how they think the researcher wants them to respond. In addition to that, counterbalancing the order of the measurement of the predictor and criterion variables and careful construction of the items themselves or improving scale items can be done (Podsakoff et al., 2003).

In addition to those procedural remedies, the literature also includes different statistical remedies that can be used to detect and address common bias issue. These techniques may include Harman's single factor test, Partial correlation procedure, controlling for the effects of a directly measured latent methods factor, controlling for the effects of an unmeasured latent methods factor and multiple method factors (Podsakoff et al., 2003).

According to Jakobsen & Jensen (2015), Harman's single factor test is one of the popular methods to test the existence of common method bias. However, this technique does not control the common method biases compared to other statistical techniques. In this method it includes all items from the constructs in the study into a factor analysis to determine whether the majority of the variance can be accounted by one general factor (Podsakoff et al., 2003). According to Podsakoff & Organ (1986, p. 536) this technique requires loading all the measures in a study into an exploratory factor analysis with the assumption that if substantial amount of common method variance is

presented, either a single factor will emerge from the factor analysis or one general factor will account for the majority of the variance in the independent and criterion variables. According to Rodríguez-Ardura & Meseguer-Artola (2020), in this technique the researcher introduces all the scale items into exploratory factor analysis and examine unrotated factor solution to obtain the number of components with eigenvalues higher than 1 that explain the aggregate variance. Here, it is assumed that if there is common method variance, only one component will account for more than 50% of the covariance between items and criterion constructs (Rodríguez-Ardura & Meseguer-Artola, 2020). According to (Eichhorn, 2004) if common latent factor explains more than 50% of the variance, the existence of common method bias can be identified.

The researcher has conducted Harman's single factor test and results are depicted in Appendix C – Table 1. As per the result of the analysis it can be observed that there are seven (7) factors above the eigenvalues 1 and the total variance extracted by single factor is recorded as 47.1%. Therefore, it can be concluded that there is no issue with common method bias in this data as the total variance extracted by single factor is below the threshold level of 50%.

4.6. Test of normality

Normality can be recognized as one of the fundamental assumptions of multivariate analysis. It refers to the shape of the distribution of data for an individual variable and its correspondence to the normal distribution (Hair et al., 2019). According to Saunders et al. (2015), in order to fulfill the test of normality, the data values for each quantitative variable should be normally distributed forming as bell shape frequency distribution. According to Hair et al. (2019), in most of the cases it is sufficient to assess and achieve univariate normality for all variables.

There are two measures that can be used to measure the distribution of data, namely, Skewness and Kurtosis (Hair et al., 2014). According to Hopkins & Week (1990) these two measures reflect the two types of deviations from the normality.

Skewness refers to the balance of the distribution (Hair et al.,2019). According to (Hair et al. (2014), if a distribution for a variable stretches toward the right or left tail of the

distribution, then the distribution is considered to be skewed. In a case of the positive skewness the distribution is shifted to the left wherein in negative skewness the distribution is shifted to the right. Skewness value of zero (0) indicates normal distribution (Hair et al., 2019). The acceptable level of skewness ranged between +3 to -3 (Kline, 2016).

Kutosis can be defined as the "peakedness" or "flatness" of the distribution compared with the normal distribution Hair et al. (2019, p.94). According to Saunders et al. (2015), if the distribution is peaked it is identified as "leptokurtic" and the kurtosis value is positive. When the distribution is flatter, it is identified as "platykurtic" and the kurtosis value is negative. In a normal distribution the value of kurtosis is zero. According to Kline (2016), for univariate normality, the acceptable level of kurtosis values are ranged between +10 to -10.

The Kurtosis and Skewness values of the current study are presented in the Appendix D- Table 1. As depicted in Appendix D, the skewness value of all items is ranged between -3 to +3. Therefore, it can be inferred that the data are normally distributed. The kurtosis values of the all items are ranged between -10 to +10 (Refer Appendix D-Table 1). Since these values are within the specified threshold levels of kurtosis, the normal distribution of data can be identified. Considering both the measures; skewness and kurtosis values, it can be concluded that the condition of normality is fulfilled in this research.

4.7. Test of multicollinearity

Multicollinearity occurs in a situation where a single independent variable is highly correlated with other independent variables (Hair et al., 2019). According to Arceneaux & Huber (2007), existence of multicollinearity makes it difficult to identify the independent effect of the variables toward the outcome. Therefore, detecting the existence of multicollinearity is important. According to Sekaran and Bougie (2016), Variance Inflation Factor (VIF) can be considered as a more common measure to identify multicollinearity. VIF can be used to identify the degree to which one independent variable is explained by the other independent variables. (Sekaran and Bougie, 2016). According to Hair et al. (2019), higher VIF values indicate a high

degree of collinearity or multicollinearity exists among the independent variables. A common cut off value of VIF is 10 (Sekaran and Bougie, 2016). In the context of PLS-SEM it is said that the VIF value of 5 and higher indicates a potential collinearity problem (Hair et al., 2011). Therefore, it is recommended to have VIF value below 5 (Hair et al., 2011).

The current study adopted the recommendation made by Hair et al. (2011) where a VIF value below 5 is required to ensure that the variables are free from multicollinearity issue. The results are shown in Table 4.9. According to Table 4.9, it is apparent that VIF values of all the variables are below 5 and hence there is no issue in relation multicollinearity.

Table 4.9: VIF values

	VIF values	
	ESN usage	Job performance
Entertainment	1.865	
ESN usage		1.000
Information sharing	2.238	
Information Seeking	1.539	
Self-Documentation	1.672	
Social Interaction	2.232	

Source: Survey data

4.8. Analysis of structural equation model

As mentioned under section 3.9 of Chapter 3, considering the sample size of the study, this study employed PLS-SEM over CB-SEM. The first step of SEM is to prepare path model which is a diagram that connect variables based on the theory and logic in a way that it displays the hypotheses that will be tested (Hair et al., 2014). According to Hair et al. (2014), path models are consisted of two components: the structural model and measurement model. The structural model which is also called as the inner model describes the relationship between latent variables and the measurement model on the other hand describes the relationship between latent variables and their indicators. When it comes to the measurement models, as cited by Hair et al. (2014),

there are two types of measurement models namely, reflective measurement models and formative measurement models.

Reflective measures represent the effects of an underlying construct; hence the relationship is from the construct to its measures (Hair et al., 2014). According to Hair et al (2011) the associated coefficients for these relationships are called outer loadings in PLS-SEM. Reflective indicators are identified as functions of the latent construct therefore changes in latent construct are reflected in changes in the indicator variables (Hair et al.2011). According to Hair et al. (2014), reflective indicators can be viewed as a sample representing possible items available within the conceptual domain of the construct. As all items stem from the same construct, it can be observed high level of correlation between each other. Therefore, a change in one indicator creates an influence on other associated indicators (Hair et al.,2019). Also, it is emphasized that the individual items should be interchangeable, and any single item can be removed without changing the meaning of the construct provided that the construct has adequate level of reliability (Hair et al.,2014).

On the other hand, formative measurement models are based on the assumption that the indicators are causing the construct (Hair et al.,2019). Formative indicators represented by single-headed arrows pointing from indicate variable to the latent construct. The associated coefficients of the relationship are identified as Outer weights (Hair et al.,2011). Hair et al. (2014) stated that each indicator of the construct indicates specific aspect of the construct domain and the items ultimately determine the meaning of the construct. As a result, the removal of an indicator from the construct may change the nature of the construct. According to Hair et al. (2019), formative measures are viewed as indices or composites where each indicator is a potential contributing cause. Further, since there is a common reason for indicators to represent a construct in the case of the formative measurement, there is no requirement for items to be correlated with each other.

According to Hair et al. (2011), in general, reflective models consist of scale measurements whereas formative models consist of index measurements. When considering the current study, it used the Likert scale for item measurement, therefore

the reflective model has been adopted for the study. According to Hair et al. (2014), when causality is established from the construct to the indicator and when an indicator is a characteristic explaining the construct, they represent a reflective model. Based on these criteria also the use of reflective model can be justified. Further to this, it was cited by Hair et al. (2014) when the indicator represents consequence of the construct it is reflective. In the current study, consequence of Information sharing, self-documentation, information seeking, entertainment, social interaction, ESN usage and in-role and innovative job performance were explained through their indicators. Thus, it is apparent that the most relevant model for this study is a reflective measurement model.

The assessment of PLS-SEM follows two stages namely, assessment of measurement model and assessment of structural model. According to Hair et al. (2011), initially the measurement model needs to assess the reliability and validity according to specified criteria and if the reliability and validity conditions are met, the research can proceed to the assessment of the structural model.

In this study there are nine variables used: information sharing, self-documentation, information seeking, entertainment, social interaction, ESN usage, job performance, innovative job performance and in role job performance as latent variables. The job performance is considered as a higher-order construct or second order construct. This is because as mentioned section 3.4 in Chapter 3, job performance is measured via two sub constructs namely, in-role job performance and innovative job performance. According to Sarstedt et al. (2019), higher-order constructs offer a framework to model a construct on more abstract dimension (higher order component) and its sub dimensions (lower-order components). According to Hair et al. (2014), higher-order constructs allow researchers to include a general construct that represents several of its subconstructs in PLS-SEM. As a result, the number of potential relationships in the structural model is reduced.

The results of the assessment of measurement model and structural model are presented in the next sections.

4.8.1. Assessment of measurement model for lower order constructs

Under the measurement model of PLS-SEM, the researcher evaluated the reliability and validity of the constructs. Under the reflective measurement model, the researcher focused on assessing internal consistency, indicator reliability, convergent validity and discriminant validity (Hair et al., 2014). At the beginning, the reliability and validity measures were tested for lower order constructs.

Reliability testing

Reliability can be identified as the degree to which the observed variable measures the true value (Hair et al., 2019). It indicates the "extent to which a variable or set of variables is consistent in what is being measured" (Hair et al., 2019). When measuring reliability of the study, the researcher measured 2 types of reliability under reflective model, namely, internal consistency reliability and indicator reliability. Internal consistency reliability indicates that the individual indicators of the scale should be measuring the same construct and therefore a high level of correlation can be observed among those indicators. Composite reliability and Cronbach alpha are considered as the measures of internal consistency (Hair et al., 2019). Composite reliability is a measure of internal consistency which does not assume all indicators are equally reliable. The acceptable level of composite reliability is 0.7 or above (Hair et al., 2011). Another measure to check the internal consistency of the constructs in Cronbach alpha. Cronbach alpha is a reliability coefficient which indicates how well the set of items are correlated with one another (Sekaran and Bougie, 2016). According to Hair et al., (2019), the generally accepted lower limit for Cronbach alpha is 0.70. However, the Cronbach alpha values greater than 0.95 is not good as it may indicate the redundance ((Hulin et al., 2001; Ursachi et al., 2015).

The initial reliability testing done through the PLS algorithm resulted in the composite reliability and Cronbach alpha values shown in Table 4.10.

Table 4.10:Internal consistency reliability

Construct	Cronbach's Alpha	Composite Reliability
Entertainment	0.939	0.953
ESN usage	0.928	0.946
Innovative Performance	0.958	0.967
Information sharing	0.950	0.964
Information seeking	0.963	0.971
In-role performance	0.935	0.953
Self-Documentation	0.915	0.946
Social Interaction	0.959	0.966

Source: Survey data

Even though the Cronbach alpha and composite reliability values are above the threshold level of 0.7 as indicated earlier, having Cronbach alpha value above 0.95 was not acceptable as it indicates the possibility of having redundant items. According to Hair et al. (2014), such higher values are not acceptable as they imply that all the indicators are measuring the same phenomenon and therefore unlikely to be an effective measure of the construct. In the current study it could be observed that the constructs information seeking, social interaction and innovative job performance have Cronbach alpha values above 0.95. Therefore, measures were undertaken to reduce the Cronbach alpha values of them, and those measures are illustrated below.

The Cronbach alpha value of Information seeking was 0.963. As it is an indication of redundancy, the researcher needs to eliminate such redundant items (Hair et al.2014). In order to identify which item to deleted, the researcher performed reliability analysis for information seeking using SPSS. The results are shown in Table 4.11. Values shown in the “Cronbach's Alpha if Item Deleted” column in the table was used to determine which item to be deleted resulting in the best Cronbach value, which is below 0.95, for the construct. Consequently, it was decided to delete Ise_4 from the Information seeking construct since the deletion resulted in the lowest Cronbach alpha value amongst the existing values.

Table 4.11:Item reliability analysis - Information seeking

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ISe_1	16.82	13.766	0.905	0.943
ISe_2	16.95	13.790	0.873	0.953
ISe_3	16.76	14.128	0.897	0.945
ISe_4	16.77	14.135	0.916	**0.940**

Source: Survey data

The second construct with high reliability was social interaction. SPSS software was again used to determine the reliability values for the construct and results are shown in Table 4.12.

Table 4.12:Item reliability analysis -Social interaction

Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
SI_1	31.23	71.628	0.832	0.954
SI_2	31.23	70.893	0.817	0.955
SI_3	31.44	69.572	0.910	**0.948**
SI_4	31.48	70.858	0.903	**0.948**
SI_5	31.32	72.300	0.857	0.952
SI_6	31.45	69.200	0.890	0.949
SI_7	31.52	73.548	0.784	0.958

Source: Survey data

A similar process specified above for “Information seeking” construct was performed to determine which item to be deleted to improve Cronbach alpha value of this construct. However, it was apparent from the “Cronbach’s Alpha if Item Deleted” column that the lowest value is 0.948 could be reached by deleting two indicators: SI_3 and SI_4. Therefore, in order to identify which indicator to be deleted out of the two indicators, it was decided to examine the contribution of each indicator has on the construct (Hair et al.,2014). For that, the factor loadings of each item were calculated

using the SPSS software since the factor loadings indicate the level of contribution each indicator has on Social interaction construct and they are shown in Table 4.13. A comparison of factor loadings between SI_3 and SI_4 indicators reveal that SI_4 has a lower contribution to the Social interaction construct. Therefore, the researcher decided to delete SI_4 indicator from further analysis.

Table 4.13: Component matrix- Social interaction

Component Matrix[a]	
	Component 1
SI_1	0.874
SI_2	0.864
SI_3	0.937
SI_4	**0.932**
SI_5	0.898
SI_6	0.922
SI_7	0.841
Extraction Method: Principal Component Analysis.	

Source: Survey data

The 3rd construct with higher Cronbach alpha value was Innovative job performance. A similar process specified above for "Information seeking" construct was performed to determine which item to be deleted to improve Cronbach alpha value of this construct. The results are shown in Table 4.14. The values in the "Cronbach's Alpha if Item Deleted" column reveal that the deletion of IP_2 indicator results in the lowest Cronbach value for the construct. Therefore, the researcher decided to delete IP_2 indicator from further analysis in order to improve the internal consistency.

Table 4.14: Item reliability analysis - Innovative job performance

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IP_1	28.58	23.100	0.888	0.948
IP_2	28.53	23.079	0.904	**0.946**
IP_3	28.53	24.389	0.799	0.957
IP_4	28.59	23.692	0.886	0.948
IP_5	28.69	23.166	0.839	0.954
IP_6	28.62	23.547	0.896	0.947

Source: Survey data

Having deleted the above-mentioned items from the model, the PLS algorithm was run again to determine the Cronbach's alpha and composite reliability values. The results are shown in Table 4.15. Since all the Cronbach alpha values and Composite reliability values are above the threshold level of 0.7 and all the Cronbach are below the upper threshold value of 0.95, the internal consistency reliability of all the constructs is established.

Table 4.15: Internal consistency reliability after deleting ISe_4,SI_4 and IP_2

Construct	**Cronbach's Alpha**	**Composite Reliability**
Entertainment	0.939	0.953
ESN usage	0.928	0.946
Innovative job performance	**0.947**	0.959
Information sharing	0.950	0.964
Information seeking	**0.947**	0.962
In-role job performance	0.935	0.953
Self-documentation	0.915	0.946
Social interaction	**0.949**	0.959

Source: Survey data

In addition to establishing the internal consistency reliability, indicator reliability is also assessed in reflective measurement model (Hair et al.2011). According to Hair et al. (2019, p.761) indicator reliability indicates “the variation in an item explained by

the construct". According to Hair et al. (2014), in order ensure indicator reliability, at least all indicators' outer loadings should be statistically significant. The general rule of thumb is that each indicator's standardized loading (outer loading) should be greater than 0.70 to ensure indicator reliability (Hair et al.,2011). The outer loading values of indicators of each construct are depicted in Appendix E-Table1 . It can be observed that the outer loadings values of all indicators of the respective constructs are above the threshold level of 0.70. Therefore, the indicator reliability is ensured.

Validity testing

According to Hair et al. (2019), validity can be defined as the extent to which the indicators of a construct jointly measure what they are supposed to measure. The reflective measurement model is focused on establishing convergent validity and discriminant validity (Hair et al.,2011).

Convergent validity

Convergent validity can be defined as is the extent to which an indicator positively correlates with the alternative indicators of the same construct (Hair et al.,2014). As cited by Hair et al. (2014) in reflective model as the indicators were treated as different approaches in measuring the same construct, the indicators of a particular construct should share high portion of variance. The convergent validity can be measured using outer loadings of the indicators as well as Average Variance Extracted (AVE). In order to ensure construct validity, similar to the indicator reliability, the outer loadings of the constructs should be above 0.70. The indicators with outer loading values between 0.40 and 0.70 need to be eliminated from the scale only if the deletion of the indicator leads to an increase in composite reliability (Hair et al.,2014). Since all the outer loading values are above the 0.70 level, the rule of convergent validity is satisfied.

Another commonly used method to measure convergent validity is Average Variance Extracted (AVE) for a construct which measures average percentage of variation explained among the indicators of a construct (Hair et al.,2019). According to Hair et al. (2014), AVE value of 0.50 or above emphasizes, on average, the constructs explain more the half of the variance of the constructs and the AVE below 0.5 indicates, on average, more errors exist in the indicators compared to the variance explained.

Therefore, the general rule of AVE to satisfy convergent validity is that AVE should be 0.50 or above (Hair et al.,2011). As depicted in the Table 4.16, the AVE values of all the constructs are above the minimum required level of 0.50. Therefore, the convergent validity is assured.

Table 4.16: Convergent validity – AVE values

Construct	Average Variance Extracted (AVE)
Entertainment	0.804
ESN usage	0.779
Innovative job performance	0.825
Information sharing	0.870
Information seeking	0.863
In-role job performance	0.837
Job performance	0.756
Self-documentation	0.854
Social interaction	0.796

Source: Survey data

Discriminant validity

Another aspect of validity is discriminant validity. According to Hair et al. (2019), discriminant validity is the extent to which a construct is truly different from other constructs. Therefore, a high level of discriminant validity implies that a construct is unique and captures a phenomenon that other constructs do not measure. As cited by Hair et al. (2014), there are two measures to ensure discriminant validity namely, cross loadings and Fornell-Larcker criterion. Cross loadings can be identified as the loadings of indicators on more than one construct (Hair et al.,2019). In order to ensure the discriminant validity, an indicator's outer loadings should be greater than all of its loadings on other constructs, i.e., cross loadings (Hair et al.,2014). As indicated in the Appendix E-Table 1 and Table 2, the outer loadings of the study are higher than the cross loadings, thereby the discriminant validity is ensured.

Fornell-Larcker criterion is another measure to assess the discriminant validity which compares the shared variance within the constructs to the shared variance between the constructs (Hair et al.,2019). In order to ensure the discriminant validity, the square root of AVE value of each construct should be higher than its highest correlation with

any other construct. This implies that the construct shares more variance with its associated indicators than with any other construct (Hair et al.,2014). The assessment of Fornell-Larcker criterion is presented in the Table 4.17.

Table 4.17: Discriminant validity - Fornell Larcker criterion

	E	**EU**	**IP**	**IS**	**ISe**	**InP**	**SD**	**SI**
E	0.897							
EU	0.436	0.882						
IP	0.408	0.594	0.908					
IS	0.535	0.579	0.476	0.933				
ISe	0.404	0.389	0.479	0.569	0.929			
InP	0.312	0.586	0.815	0.471	0.570	0.915		
SD	0.488	0.540	0.366	0.583	0.412	0.319	0.924	
SI	0.650	0.627	0.453	0.631	0.469	0.377	0.530	0.892

Source: Survey data

In Table 4.17, the diagonal represents that square root value of each constructs' AVE and non-diagonal elements indicate the correlation exist between variables. The square root of each construct's AVE represented in the diagonal must be greater than its correlation with other constructs represented in off diagonal elements in order to ensure discriminant validity (Hair et al.,2014). As depicted in Table 4.17, the square root values of AVE of each construct are higher than the correlation with other constructs. Therefore, the discriminant validity is established through Fornell-Larcker criterion as well.

In addition to the above two measures, PLS-SEM has recommended Heterotrait-Monotrait ratio (HTMT) of correlations as another method to determine discriminant validity (Hair et al.2019). According to Hair et al. (2019, p.776), HTMT can be defined as the mean value of the indicator correlations across constructs relative to the mean of the average correlations of indicators measuring the same construct. According to Hair et al. (2019), the general threshold value for HTMT is 0.90 and an HTMT value above 0.90 indicates lack of discriminant validity. As depicted in the Table 4.18, all the HTMT values are below the threshold value of 0.90 and hence the discriminant validity was established through HTMT ratio as well.

Table 4.18: Discriminant validity - Heterotrait- Monotrait ratio (HTMT)

	E	EU	IP	IS	ISe	InP	SD
EU	0.456						
IP	0.426	0.628					
IS	0.556	0.605	0.503				
ISe	0.423	0.402	0.503	0.597			
InP	0.326	0.619	0.865	0.502	0.605		
SD	0.520	0.571	0.388	0.626	0.443	0.346	
SI	0.687	0.657	0.480	0.660	0.491	0.398	0.561

Source: Survey data

4.8.2. Assessment of measurement model for higher order constructs

This study involves a higher order construct, namely, employee job performance. According to Hair et al. (2014), when higher order constructs are present in the model, it has two components namely: higher order component and lower order component. Higher order component mainly captures the abstract entity while the lower order component captures the subdimensions of the entity (Hair et al.,2014). According to Sarstedt et al. (2019), the researcher must address three concerns in order to get the benefits of higher order constructs. First, the conceptualization and specification needs to be grounded in well-developed measurement theory. As cited by Hair et al. (2014), the model relationship is categorized based on different relationships existing between the higher order construct and lower order constructs and, the relationship between constructs and their indicators. As a result, four types of relationships can be identified, namely, reflective-reflective, reflective-formative, formative-reflective and formative-formative (Becker et al., 2012).

Another concern is that the researcher needs to decide between different approaches to identify higher order constructs (Sarstedt et al.,2019). There are two prominent approaches that can be used in specifying and estimating higher order constructs namely, repeated indicators approach and two stages approach (Hair et al.,2014). In repeated indicators approach, first order indicators are repeated in order to represent the higher order construct (Ciavolino & Nitti, 2010), while in two step approach latent variable scores are initially measured without higher order constructs and latent variable scores are subsequently used as indicators in separate higher order model

(Agarwal et al., 2000 cited in Ciavolino and Nitti, 2010). Repeated indicators approach is the most favored and the frequently used approach by researchers when modeling the higher order construct using PLS (Wilson & Henseler, 2007; Ciavolino and Nitti, 2010). Also, it is identified as a technique that is easy to implement (Hair et al.,2014). However, the repeat indicators approach can be problematic where the higher order construct is reflective-formative or formative-formative. In such circumstances it is recommenced to use extended repeat indicator approach or two stages approach (Sarstedt et al.,2019).

Another concern that need to be addressed by the researcher is that similar measurement model evaluation criteria need to be applied to the higher order construct. For an example, for higher order constructs with reflective measurement model need to satisfy the specified reliability and validity criteria (Hair et al,2014).

Due to the fact that the repeat indicator approach is easy to implement and more favored approach and the relationship between higher order and lower order constructs is reflective-reflective, the current study also adopted repeated indicators approach when modeling higher order constructs. When implementing repeated indicators approach there are several aspects that need to be considered. According to Becker et al. (2012), the number of indicators need to be similar across lower order constructs. Otherwise, the relationship between higher order constructs and lower order constructs can be biased due to the inequal number of indicators per lower order construct. In the current study, there are two lower order constructs namely in-role job performance and innovative job performance. In-role job performance consisted of four indicators whereas innovative job performance consisted of 5 indicators, after deleting one indicator (IP_2) to improve internal consistency reliability. Since the researcher employed repeat indicator approach, all nine indicators were assigned to the higher order construct: job performance. This results in creating a strong relationship between the higher order construct and lower order constructs.

When assessing the higher order models, the same evaluation criteria used for any other PLS-SEM can be applied. However, when applying evaluation criteria these models need to consider two additional measurement models, namely, the

measurement model of the lower order constructs and the measurement model of the higher order construct. The measurement model of lower order constructs was covered under section 4.8.2.

The higher-order construct must not be evaluated in terms of its repeat indicators as these indicators are not represented in the actual measurement model. They only ensure that the higher order construct is identified. Instead, the higher- order construct's measurement model need to be defined by the relationships between the higher-order component and its lower-order components. In the circumstances where the lower-order components are reflections of the higher-order component (reflective-reflective and formative-reflective types), the direction of relationships is from the higher-order component to the lower-order components (Sarstedt et al., 2019).

Before assessing the higher order construct, the researcher first drew the model on repeated indicator approach in order to establish reflective-reflective higher order construct of employee job performance. As mentioned earlier, the constructs in-role and innovative job performance lower order constructs of the higher order construct employee job performance which was measured with nine indicators : InP_1, InP_2, InP_3, InP_4, IP_1, IP_3 IP_4, IP_5, IP_6. The indicators that measure reflective lower order constructs were assigned to the reflective model of higher order construct (Sarstedt et al., 2019). As indicated earlier, when assessing measurement model of higher order construct, the similar reliability and validity criteria used for the reflective model need to be applied. According to Sarstedt et al. (2019), the relationships between higher-order and lower order components are interpreted as loadings and, internal consistency reliability, convergent validity, and discriminant validity measures are assessed when the higher order constructs are reflective-reflective and formative-reflective,

Reliability

The reliability and validity assessment of the higher order construct, Job performance was constructed on its relationship with its lower order components. The constructs In-role job performance and Innovative job performance are interpreted as if they were indicators of the Job performance construct. As a result, the relationships between job

performance and its lower-order components In-role job performance and Innovative job performance, are interpreted as loadings. The analysis produced loadings of 0.942 for In-role job performance and 0.963 for Innovative job performance therefore satisfying the indicator reliability.

With the use of these indicator loadings and the correlation between the constructs, the relevant measures to assess the higher-order construct's reliability and validity can be manually calculated (Sarstedt et al., 2019).

The composite reliability of the higher order construct, Job performance, was calculated using the formula and calculation presented in Appendix F-Table 1. Accordingly, the composite reliability value of Job performance was 0.950. Since the value is higher than the threshold value of 0.70 it can be concluded that the internal consistency reliability of higher order construct is assured.

Validity

The Average variance extracted (AVE) was calculated to measure convergent validity of the higher order construct (Refer Appendix F – Table 2). As per the analysis, the AVE value of Job performance was 0.952. As the calculated AVE value is greater than the minimum required AVE value of 0.50, the convergent validity is ensured.

HTMT value was calculated in order to validate the discriminant validity. The calculation of HTMT is shown in Appendix F-Table 3. The analysis indicated that the HTMT value of the job performance was calculated as 0.736. Since the value generated was below the threshold level of 0.9, the discriminant validity can be ensured.

4.9. Assessment of Structural model

Once the reliability and validity are ensured through the assessment of measurement model, next focus is on the structural model which represent underlying theory of the path model. According to Hair et al. (2014), the results of the structural model assist to determine to what extent the empirical data support the underlying theory and therefore can decide whether the theory or concept is empirically confirmed or not. The assessment of structural model includes the examination of the predictive

capabilities of the model and the relationships between constructs. When examining structural model, it is important to consider that the PLS-SEM fits the model to the sample data with the objective of obtaining best parameter estimates (Hair et al.,2014).

The key criteria for examining the structural model in PLS-SEM include the multicollinearity, significance of the path coefficients, the level of the R^2 values, the f^2 effect size and the predictive relevance (Q^2) (Hair et al., 2014). The rest of the section discussed these five criteria separately.

4.9.1. Multicollinearity

Before assessing these criteria, the multicollinearity needs to be assessed. As discussed at the beginning of the chapter (refer section 4.7 and the Table 4.9) the inner VIF values are below the threshold level of 5. Therefore, it can be confirmed that there are no any multicollinearity issues.

4.9.2. Testing of hypotheses

According to Hair et al. (2014), path coefficients are having standardized values between -1 and + 1. The path coefficients that are closer to +1 indicate strong positive relationships that are usually statistically significant whereas the path coefficient values that are closer to zero indicate weak relationship and are usually insignificant. The significance of the coefficient depends on its standard error obtained through Bootstrapping procedure. According to Hair et al. (2011) each bootstrap sample need to have the similar number of cases as the original sample and the predetermined minimum number of bootstrap sample is 5000. The bootstrap standard error permits to compute empirical t value which can be used to measure significance of the path model (Hair et al.,2014). Further, the authors stated that the t distribution can reasonably be applied for sample sizes greater than 30. When the empirical t value is higher than the critical value, it is identified that the coefficient is significant at a particular level of error probability or significance level. As cited by Hair et al. (2014), there are generally used critical values for two tailed t tests. These critical values include 1.65 (significant level of 10%), 1.96 (significance level of 5%) and 2.57 (significance level of 1%). When interpreting the results of a path model, the significance of all structural model relationships needs to be tested. In examining the

significance, the empirical t value, the p value, or the bootstrapping confidence interval can be employed.

The following Figure 4.1 represents the path diagram with t values between the relationships shown in the model.

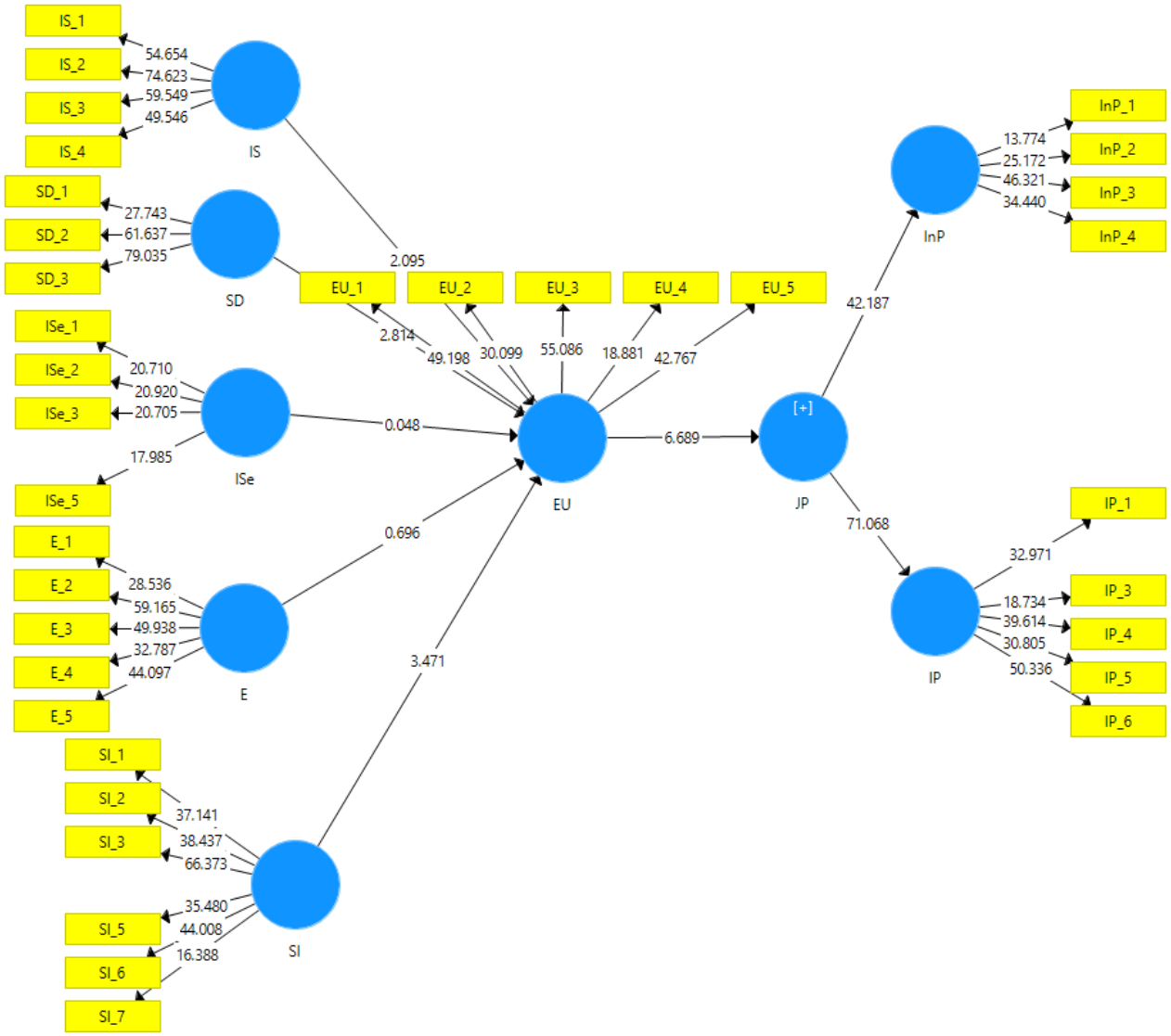

Figure 4.1: SEM path diagram

Source: Survey data

The main objective of this study was to identify the different motivations that influence ESN usage and examine the effect of ESN usage on employee job performance in

terms of in-role job performance and innovative job performance. Accordingly, the hypotheses were developed to achieve these research objectives.

In current study, the path coefficient and the significance of the relationships were assessed using the bootstrapping results. The results are shown in Table 4.19. If the path coefficients between the constructs depicted in the model are significant, it can be concluded that the previously established hypotheses are accepted, and vice versa (Hair et al., 2011).

Table 4.19:Summary of hypotheses testing

Hypotheses	Path	Path coefficient	T Statistics	P Values	Decision
H_1	IS → EU	0.223	2.102	0.036	Supported
H_2	SD → EU	0.221	2.858	0.004	Supported
H_3	**ISe → EU**	**0.004**	**0.047**	**0.963**	**Not Supported**
H_4	**E → EU**	**-0.054**	**0.700**	**0.484**	**Not Supported**
H_5	SI → EU	0.402	3.497	0.000	Supported
H_6	EU → JP	0.620	6.580	0.000	Supported
H_{6a}	EU → InP	0.584	6.035	0.000	Supported
H_{6b}	EU → IP	0.597	6.237	0.000	Supported

Source: Survey data

The hypotheses were initially developed in Chapter 3 indicating the effect of different motivations on ESN use and the effect of ESN use on employee job performance. The first hypothesis (H_1) proposed that there is a positive effect of Information sharing on ESN usage. The path coefficient value between Information sharing and ESN usage indicates positive association between two variables and the relationship existing

between information sharing and ESN usage was significant at 95% confidence level as it gives the p value of 0.036 which is below the critical value of 0.05. The second hypothesis (H_2) proposed that self-documentation has a positive effect on ESN usage. The path coefficient of self-documentation was reported as 0.221, indicating positive relationship. However, the relationship between self-documentation and ESN usage was statistically significant with the p value of 0.004. Third hypothesis (H_3) indicated that there is a positive effect information seeking on ESN usage. However, the path coefficient between two variables was 0.004, indicating a non-significant effect. Further the hypothesis was rejected at 95% confidence level as the p value of 0.963 was above the critical value of 0.05. The fourth hypothesis (H_4) proposed that the entertainment has a positive effect on ESN usage. However, the path coefficient between two variables is shown as -0.054 indicating non-significant relationship effect. In addition, the p value of the 0.484 rejected the hypothesis at 95% confidence level. Fifth hypothesis (H_5) proposed a positive effect of social interaction on ESN usage. According to the bootstrapping result, the path coefficient between two variables was 0.402 which can be identified as positive relationship. Moreover, the relationship between social interaction and ESN usage was significant with a p value of 0.000 which is below the critical level of 0.05.

Another focus of the study is to examine the effect of ESN usage on employee job performance in terms of in-role job performance and innovative job performance. As the job performance is acted as higher order construct in the model, there were 3 hypotheses to analyse this relationship. Sixth hypothesis (H_6) of the study was that the ESN usage has a positive effect on job performance. The path coefficient of the relationship was 0.620, which indicate a positive relationship. Also, relationship between ESN usage and job performance indicated p value of 0.000 which is below the critical value of 0.05. Therefore, it can be specified that the relationship existing between ESN usage and Job performance is statistically significant at 95% confidence level.

Since the job performance is a higher order construct reflected through subdimensions of in-role job performance and innovative job performance, two separate hypotheses were derived based on H_6 to examine the effect of ESN usage on in-role and innovative

job performance. Accordingly, H_{6a} proposed that the ESN usage has a positive effect on in-role job performance and H_{6b} suggested that the ESN usage has a positive effect on innovative job performance. Therefore, in order to test these hypotheses, the indirect results generated after bootstrapping were tested. Accordingly, the path coefficient of the relationship between ESN usage and in-role job performance was 0.584 which indicates positive relationship. Further, this relationship is significant as it generated the p value of 0.000 which is below the critical value of 0.05. Also, the relationship between ESN usage and innovative job performance has a path coefficient of 0.597, indicating a e positive relationship between the two constructs. The relationship resulted a p value of 0.000 which is below 0.05. Therefore, it can be concluded that the relationship is significant at 95% confident level.

4.9.3. Effect of gender on ESN usage

According to Ross & Willson (2018) independent-samples t-test can be used to compare the mean values of the two groups. Here, it was examined whether there is any significant difference between the use of ESN between male and female respondents. Following table represents the output of independent sample t test. The following Table 4.20 provides useful descriptive statistics for the two groups (males and females), including the mean and standard deviation. according to this table, the mean value of the use of ESN by males is 5.24 and by females is 5.50. thus it is apparent that the females' use of ESN seem to be slightly higher compared to the males. However, with these results, we cannot conclude that the difference is significant.

Table 4.20: Group statistics

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Avg_EU	Male	83	5.2458	1.24404	.13655
	Female	63	5.5079	1.13184	.14260

Source: Survey data

In order to determine whether, there is a significant difference between the mean values of the use of ESN between males and females, an independent t-test was conducted. The first step in using this test is to test the assumption of homogeneity of variance in which null hypothesis assumes no significant different between the variances of two groups. The Levene's F test for equality of variance is the commonly accepted statistics to test the assumption of homogeneity of variance. The Levene's test uses the level of significance set a priori for the t-test analysis (e.g., $\alpha = .05$) to test the assumption of homogeneity of variance. The results are shown in the following Table 4.21. As depicted in this table, the significance value of Levene's F test was 0.292 which is greater than 0.05. Therefore, the null hypothesis is accepted. Thus, it can be concluded that there is no any statistical significant difference between the male and female groups in relation to the use of ESN within organizations in the software industry.

Table 4.21: Independent Sample T test

Independent sample T test							
		Levene's test for equality of variances					
		F	Sig.	t	df	Mean Difference	Std. Error Difference
Avg_EU	Equal variances assumed	1.119	.292	-1.311	144	-.26215	.20002
	Equal variances not assumed			-1.32	139.28	-.26215	.19743

Source: Survey data

4.9.4. Coefficient of determination (R^2)

Once the significance of the relationships between different variables were tested, the next step of the structural model assessment focuses on assessing Coefficient of Determination (R^2) (Hair et al.,2014). According to Hair et al. (2019, p.760),

Coefficient of Determination can be defined as "a measure of the proportion of the variance in the endogenous variables that is explained by the predictor constructs". The coefficient represents the combined effects of exogenous variables on the endogenous latent variable (Hair et al.,2014). The R^2 value ranges from 0 to 1 where 0 indicates no relationship and 1 indicates perfect relationship. According to Hair et al. (2019), it is difficult to establish acceptable rule R^2 values as it depends on the model complexity and the research disciplines. However, R^2 values of 0.75, 0.50 and 0.25 for endogenous variables in the structural model can be described as substantial, moderate, and weak respectively (Hair et al., 2011).

In this study, there are two endogenous constructs namely ESN usage and Job performance. The results of the R^2 is indicated in Table 4.22. The coefficient of determination (R^2) value of ESN usage was 0.48 which indicates that there is a moderate level of explanatory power in the model to ESN usage. The coefficient of determination ($R^{2)}$ value of job performance is was 0.38, indicating a moderate level of explanatory power in the model to overall job performance.

Table 4.22:Coefficient of determination

Endogenous variable	**R^2**	**Adjusted R^2**
ESN usage	0.479	0.460
Job performance	0.384	0.380

Source: Survey data

4.9.5. The effect size (f^2)

In addition to R^2, the effect size f^2 was assessed. According to Hair et al. (2014), f^2 effect size evaluates the effect that the omission of specified exogenous construct created on coefficient of determination. In assessing f^2 effect size, the values greater than 0.02,0.15,0.35 are indications of low, medium and large f^2 effect sizes respectively (Cohen as cited in Hair et al., 2011) and the effect size below 0.02 indicates no effect (Cohen as cited in Hair et al., 2019)

In order to obtain f^2 effect size, the R^2 values of the endogenous latent variable is calculated when a selected exogenous latent variable is included in the model and removed from the structural model. In this study the effect size was calculated for ESN usage as it depends on several other exogenous variable. The effect size for ESN usage was obtained by removing information sharing, self-documentation, information seeking, entertainment and social interaction variables at five different times. As depicted in the Table 4.23 the f^2 effect size of ESN usage after removing aforementioned variables were 0.04, 0.05,0.00,0.003 and 0.13 respectively. Therefore, it can be identified that the f^2 effect size of ESN usage with the removal of information sharing, self-documentation and social interaction were weak whereas the removal of information seeking, and entertainment had no effect on the f^2effect size.

Table 4.23: f^2 effect size

Predictive constructs	Endogenous constrcuts	R^2 included	R^2excluded	f^2 Effect size	Effect
Information sharing	ESN usage	0.479	0.456	0.044	Low
Self-documentation	ESN usage	0.479	0.450	0.050	Low
Information seeking	ESN usage	0.479	0.479	0.000	No
Entertainment	ESN usage	0.479	0.477	0.003	No
Social interaction	ESN usage	0.479	0.407	0.130	Low

Source: Survey data

4.9.6. Predictive relevance (Q^2)

In addition to examining the magnitude of the coefficient of determination, it is also important to measure the predictive relevance (Q^2) of the model (Hair et al.2014). Q^2 value is obtained by using blindfolding procedure for a specified omission distance D with the values between 5 and 10 (Hair et al.,2011). A higher Q^2 value can be obtained when the difference between original and predicted values is small indicating the high level of predictive accuracy and below the value 0.00 indicates lack of predictive relevance (Hair et al.,2019).

According to Hair et al. (2019), when calculating Q^2 value, the raw data values are first removed sequentially, then the values are assigned, and parameters of the model are

estimated. The parameters are used to predict the removed data values. This procedure is repeated until it reaches to the point where every data point has been omitted and the model is re-estimated.

The Q^2 value was calculated using cross-validated redundancy approach which is built on the path model estimates of both the structural model and the measurement model of data prediction. Therefore, prediction with the use of cross validated redundancy matches with the PLS-SEM approach perfectly (Hair et al.,2014). The Q^2 value for ESN usage and Job performance was calculated using cross validated redundancy using SmartPLS blindfolding procedure. The blindfolding-based cross-validated redundancy measures or Q^2 values of ESN usage and job performance were 0.358 and 0.271 respectively. Since these values are above zero, they indicate the high predictive relevance of the path model.

Similar to using f^2 effect size to assess R^2 values, the impact of predictive relevance can be compared by using q^2 effect size. According to Hair et al. (2014), the values of 0.02, 0.15, and 0.35 reflect that an exogenous construct has a small, medium, or large predictive relevance for a given endogenous construct. As in the case of f^2 effect size, the q^2 effect size was only calculated for ESN usage. As depicted in the Table 4.24, the q^2 effect size of ESN usage after removing information sharing, self-documentation, information seeking, entertainment, social interaction one at a time were 0.015, 0.022, - 0.002,0.000 and 0.056 respectively. Therefore, it can be identified that the q^2 effect size of ESN usage with the removal of information sharing, self-documentation and social interaction were weak whereas the removal of information seeking, and entertainment had no effect on the f^2effect size.

Table 4.24: Predictive relevance and q^2 effect size

Predictive construct	**Endogenous construct**	**Q^2 included**	**Q^2 excluded**	**q^2 effect size**	**Effect**
Information sharing	ESN usage	0.358	0.343	0.015	Weak
Self-documentation	ESN usage	0.358	0.336	0.022	Weak
Information seeking	ESN usage	0.358	0.36	-0.002	No
Entertainment	ESN usage	0.358	0.358	0.000	No

Social interaction	ESN usage	0.358	0.302	0.056	Weak

Source: Survey data

4.10. Discussion of findings

The analysis of the study was undertaken to in order to test the hypotheses developed based on the research objectives set at the beginning of the study. The objectives of the research study were; to identify different gratifications that motivate employees to use enterprise social networks, to identify the relationship between the identified gratifications and enterprise social networks usage and to identify the impact of enterprise social networks usage on in-role and innovative job performance. The findings and the discussion were undertaken based on these objectives.

4.10.1. Objective 1: To identify different gratifications that motivate employees to use ESN

The first objective of this study was to identify the different gratifications that motivate employees to use ESN. An extensive literature review was undertaken in order to achieve this objective. In identifying those gratifications or motivations, the researcher considered the previous literature that were developed based on the theory of Uses and Gratifications.

Based on the review of literature, the researcher was able to identify the 14 gratifications that motivate employees to use ESN. There, the gratifications included entertainment, information sharing, escapism, cool and new trend, personal development, social interaction, information seeking, communicatory utility, expressing opinion, convenience, watching others, self-presentation, medium appeal and self-documentation. Out of these 14 gratifications, the researcher was able to filter five most used gratifications based on their usage frequency in empirical literature. Accordingly, information sharing, self-documentation, information seeking, entertainment and social interaction were identified as different gratifications that motivate employees to use ESN at their workplaces, fulfilling the first objective of this research.

4.10.2. Objective 2: To identify the relationship between the identified gratifications and ESN usage

The second objective of the study was to identify the effect of different gratifications on ESN usage. Accordingly, five hypotheses were developed and tested under the data analysis section in order to identify the nature and the significance of the relationships existing between these gratifications and ESN usage. Thus, the effect of each of the identified five gratifications (information sharing, self-documentation, information seeking, entertainment and social interaction) on ESN usage was tested. Findings in relation to the effect of each of the gratification on ESN usage is discussed below.

Effect of Information sharing motives on ESN usage

Based on the literature, the first hypothesis was developed to identify the effect of information sharing on ESN usage. The results of the analysis indicated that there is a positive and significant effect of information sharing on ESN usage. Accordingly, it can be stated that the gratification of information sharing creates positive and significant influence towards the employees' use of ESNs at work. This finding was consistent with the previous studies of Smock et al. (2011); Whiting and Williams (2013); Alhabash et al. (2014); Ali-Hassan et al. (2015); Alhabash and Ma (2017); Gan and Li (2018); Liu and Bakici (2019); Meske et al. (2019); Hossain (2019). Thus, it is apparent that this finding is consistent with most of the previous findings.

These positive influence information sharing has on ESN usage can also be discussed by identifying how ESN function within the organization. According to Liu & Bakici (2019), in general ESNs incorporate different features of social networks such as blogging, posting chatting which allows employees to create contents and share those contents with others in their organization. According to these authors ESNs allow workers to publish information that are important to others more easily and without taking any extra effort. As cited by Leonardi et al. (2013) ESNs are interactive in nature hence it allows to communicate and share information and knowledge via a two-way dialogue. Therefore, ESN can be considered as a convenient medium which satisfy the information sharing motive of the employees. Further it was identified that the employees' desire to share required information more instantly with others may

enhance their engagement with the ESN. In addition, the affordances associated with the ESN further provide more possibilities for employees to use ESN platform for the purpose of information sharing (Treem & Leonardi, 2013). The editability feature associated with ESN allow employees to view and edit their communication before sharing it with others. Also, these features allow employees to customize their messages before sharing in order to match with the target audience. These affordances further enhance the capabilities of ESNs to facilitate knowledge sharing hence improving the ESN usage (Treem and Leonardi, 2013).

In the context of software companies, the motive of information sharing can be identified as a critical factor which influence their use of ESNs. The software companies are more collaborative in nature and as a result large amount of information need to be shared between each other in relation to customer works, on-going projects, handling project related issue etc. Further to this, sharing domain specific knowledge between different level of employees is a critical factor for the project success. There are situations where the employees in different department need to collaborate and share their views in the case of new application developments. The collaborative nature of the ESNs allow employees to get quick feedbacks from the other employees and work teams, share relevant documents with each other, and share both personalized and codified knowledge with the users of the system. Such practice may ultimately improve the quality of the products as well as the effectiveness of the work team. The use of the information sharing features of the ESNs would help employee to ensure smooth functioning of their activities. Therefore, given the context of software companies as illustrated above, the significant effect of Information sharing on ESN usage can be justified.

Effect of self-documentation motive on ESN usage

The second hypothesis was developed to identify the effect of self-documentation motive of ESN usage. According to the results of the data analysis it was identified that there is a significant positive impact of self-documentation motive on ESN usage. This result is also confirmed by several previous empirical studies done by Liu et al. (2010); Alhabash et al., (2014); Liu et al., (2016); Alhabash and Ma, (2017).

According to these researchers, the motive of self-documentation creates influence on increased employee use of ESNs at work. However, there were several studies done by Gan and Li (2018); Liu and Bakici, (2019) presenting arguments that are inconsistent with these findings.

Self-documentation feature of ESNs allows employees to document their work, document the knowledge and track their work in progress (Liu & Bakici, 2019). As cited by these authors, using the features such as blogging associated with ESN, employees can create posts and document their daily activities. The employees can document on their daily routines such as what they are currently doing using ESN platform. When ESN associated with the facilities which fulfill the employee's motivation of self-documentation it will improve the ESN usage by employees (Liu & Bakici, 2019). Also, as explained by Treem & Leonardi (2013) the persistent affordance associated with the ESNs allows employees to document their knowledge and work and keep it for future use. The persistent feature associated with the ESNs allows employees to access to the original contents they have created, and they are available in the original format (Treem and Leonardi, 2013).

In relation to the software industry, this can be identified as a justifiable finding. This is because in software companies employees are engaged with different projects of different clients simultaneously. Therefore, in that context having records of the activities that they are currently engaged in and activities that are to be undertaken in the future would be beneficial to manage their work. Also, having records of these activities would assist them to track their work as well as work in progress allow them to meet deadlines and complete assigned task on time. In addition to that such documentation of their activities would be helpful for them during their performance evaluations as well. Further to this, all other functional areas can be benefited from these features which facilitate self-documentation as each and every employee can have a track of their work. Employees can also create reminders for the activities they have to perform so that it will ensure that they are not facing any difficulty in fulfilling these activities. In addition to that this platform can be used by the employees to create contents on the new learning they received, problems they encountered and remedial actions undertaken which would ensure that the knowledge is retained with the

employees and facilitate proper knowledge management practice. Considering all the above facts it is clear that the self-documentation motivates the employees to use ESN and hence the significant effect of self-documentation on ESN use can be justified.

Effect of information seeking motive on ESN usage

With the support of previous literature third hypothesis was developed to assess the effect of information seeking motive on ESN usage. As per the analysis, the hypothesis was not supported indicating that the information seeking motivation do not create significant influence on ESN usage. However, this finding is consistent with findings of the study done by Liu and Bakici (2019). On the other hand, the non-significant relationship identified in this study is not consistent with the previous studies done by Whiting and Williams (2013); Meske et al. (2019); Hossain (2019); (Sun et al. (2020) who found that there is a significant effect the motive of information seeking on the ESN usage.

According to Meske et al. (2019), ESN would be a good platform for employees for seeking new and useful information. Further it was stated that the visibility feature associated with ESNs provide visibility and transparency to the employees' actions, preferences and social networks which improve the information seeking behaviour of the other employees. Further according to Treem and Leonardi (2013), ESN act as a mechanism of knowledge seeking by creating new and efficient means of obtaining information by allowing access to broader knowledge sources. However, these arguments of the previous researchers were contradictory to the findings of this study. According to the finding of this study, information seeking motive do not create significant influence on employees' ESN usage. However, this can be true in the situations when there are other sources of information, project management and collaboration tools available in the organization. Liu and Bakici (2019) stated that information seeking is not an influential motive that drive employees' ESN adoption. This argument can further be supported considering some demographic features of the sample. According to the demographic results, majority of the employees working in the software companies use Workplace by Facebook (47%) as an ESN tool. Workplace by Facebook has newsfeed feature acting as push based information delivery feature

which displays information as similar to the social media timeline (Liu and Bakici, 2019). According to them, with this feature employees are provided with information that they interested in before they may miss certain information. However, the information seeker need to scroll through timeline in order to get the information from previously published posts relevant to new knowledge, useful information, work related activities etc. This would be not convenient as well as time consuming for the employees. Therefore, as cited by Liu and Bakici (2019) there is a possibility to use certain alternative tools by the employees in gaining information and knowledge relevant to their work. This may explain the reason of information seeking motive not being significantly influencing the ESN use.

Effect of entertainment motive of ESN usage

The hypothesis four was developed with the objective of identifying how the entertainment motive influence the ESN usage. The findings indicate that the entertainment motive does not have a significant influence on ESN usage which is consistent with several past studies conducted by Liu et al. (2010); Liu et al. (2016); Sun et al. (2020). However, in contrast, majority of the past researchers found a positive and significant influence of entertainment motive on ESN usage (Smock et al., 2011; Whiting and Williams,2013; Alhabash et al.,2014; Ali-Hassan et al., 2015; Chiu and Huang, 2015; Alhabash and Ma, 2017; Gan and Li, 2018; Liu and Bakici 2019; Meske et al. 2019; Hossain, 2019).

According to Liu and Bakici (2019), ESNs are considered as entertaining, and these features may create positive effect on ESN usage. Since ESNs are fun and entertaining large number of employees have engaged with this platform. However, this argument was inconsistent with the result reported in this study. Accordingly, ESN is not a significant motive predicting employees' ESN usage. Even though ESNs incorporate entertaining features, most of the organizations may restrict such usages in order to control the excessive use of ESNs for entertaining purposes.

Further to the above, with the heavy workload handled by the employees in the software industry especially, they may not get adequate time to exercise those features therefore the entertainment won't be an influential motivation to drive ESN usage.

Even though employees seek those entertainment features to release their stress while working, due to their responsibility for work, they may be compelled to focus back to work after a short break rather than spending too much time in ESN pursuing entertainment (Sun et al., 2020). Also, employees may not use ESN as a means of entertainment due to the fear that they may get addicted to it. In addition to that sometime majority of the people do not use features of entertainment as it is governed by the organization. Rather, they may prefer to use other public social networks when they get bored at work as their activities are not monitored and controlled and they may be able to get engage with more interactive content that are entertaining. The above explained reasons would have contributed to the fact that entertainment motive does not have a significant effect on the use of ESN in the present study.

Effect of social interaction motive on ESN usage

Previous studies suggested that social interaction motive have a positive effect on ESN usage. Accordingly, hypothesis five was developed to test this argument. The finding of this study too proved a positive and significant effect of social interaction motive on ESN usage. Findings of the previous research done by Smock et al. (2011); Whiting and Williams (2013); Alhabash et al. (2014); Ali-Hassan et al. (2015); Chiu and Huang (2015); Alhabash and Ma (2017); Liu and Bakici (2019); Meske et al. (2019); Hossain (2019) are consistent with the findings of this study. However, counter arguments were by previous studies done by Liu et al. (2016) and Gan and Li (2018) who found that social interaction has a non-significant effect on ESN usage.

However, at the workplace with the heavy workload employees need to fulfill, they may not get an opportunity to meet in person and talk with the other employees even if they want. Therefore, the employees heavily rely on technology to maintain interactions with colleagues, friends, relations, and so on. In this context, features of ESNs which facilitate such interactions with other employees may influence the usage of ESN by the employees. ESNs are interactive in nature as they incorporate social networking features. This allows employees to build their personal profiles, interact with other employees and build social capital (Liu and Bakici, 2019). Employees use ESNs as they contribute to the development of social capital. According to Liu and

Bakici, it is easier to create social capital when people know about their coworkers and what they are doing. When more interactions are built with coworkers, it makes it easier to establish new connections with people (Leonardi et al., 2013).

When it comes to the software industry, maintaining interactions between different workgroups is of paramount importance. Also, there can be software companies having its branches in different geographical locations. The interactive features associated with ESNs allow employees to develop and maintain connections with the employees in such disperse teams and work more collectively irrespective of geographical barriers. Even for the new commers, this would be a platform to get to know each other, talk with each other and know about each other which creates sense of belongingness. Further, such features facilitated via ESNs may strengthen the communications across the organization and diminish power distance to a certain extent (Liu and Bakici, 2019). Therefore, the positive and significant effect of social interaction on ESN usage can be reasonably justified.

Explanatory power of ESN usage construct

In addition to these hypotheses, the coefficient of determination (R^2) value of ESN usage was calculated to determine explanatory power of ESN use from the identified five motives. The analysis revealed an R^2 value of 0.479 for ESN usage. Therefore, it is apparent that there is a moderate level of explanatory power for the ESN usage construct.

The R^2 value of 0.479 to the ESN usage indicate the 47.9% of the variance in ESN usage can be explained by the five motives/gratifications used in the model. Therefore, it is apparent that 52.1% of variance of the ESN usage construct is explained by some other factors. In this study the researcher selected only five gratifications out of the pool of different gratifications motivating media usage. The effect of these five motivations on ESN usage was tested in this model. However, there can be some other significant gratifications which were not considered for this study but may act as significant motivators in enhancing ESN usage. Therefore, it could be the reason to receive a moderate level of R^2 value for the ESN usage.

4.10.3. Objective 3: To identify the impact of enterprise social networks usage on employee job performance

Another main objective of this study was to identify the effect of ESN usage on employee job performance. The study reported a positive and significant relationship existing between the ESN usage and employee job performance which is consistent with prior studies done by Moqbel et al. (2017); Aboelmaged (2018); Lu and Pan, (2019); Pitafi et al. (2020). The job performance was assessed using the two subcomponents of job performance based on the empirical literature namely, in-role job performance and innovative job performance. Accordingly, two sub- hypotheses were tested under this analysis as: there is a positive effect of ESN usage on in-role job performance and there is a positive effect of ESN usage on innovative job performance. These two hypotheses were also accepted by the results of the analysis. Accordingly, it can be confirmed that ESN usage creates positive and significant effect on both the in-role job performance and the innovative job performance. Thus, it is apparent that ESN use act as a powerful platform in enhancing employees' in-role and innovative job performances.

According to Trainor (2012 as cited in Moqbel et al.,2017) high ESN use can positively impact knowledge sharing in an organization by providing abundant access to the knowledge and expertise which lead to improved employee job performance. Considering the benefits that can be derived through ESN use, it can be observed that the use of ESN enables the employees to accomplish their routine tasks more quickly and efficiently which facilitate in-role job performance. As a result of high level of ESN usage, employees become more contented with wider knowledge and information which allows them to perform assigned duties more promptly and in a precise manner enhancing the in-role job performance of the employees.

When it come to the software companies, most of the firms are knowledge intensive and they require high level of knowledge, information and experience in order to perform their core activities. Thus, they highly rely on the creation and application of knowledge. Therefore, the high level of ESN usage may improve the in-role performance of the employees by facilitating better collaboration, interaction and access to knowledge repositories and expert feedbacks. Further, the diverse

functionalities provided by ESNs assist the employees to better achieve their goals which ultimately affect on improving performance of the employees. According to Lu and Pan (2019) ESN usage at work can positively impact on employees' performance. They argued that ESNs could serve as a communication channel which can be used to share explicit and implicit knowledge more effectively among the employees.

According to Lu and Pan (2019), majority of the employees think that ESNs make them efficient workers. In addition to that, high level of ESN usage allows employees to interact with a wider range of employees with different level of expertise and experience. The collaborative discussions with different employees enable new idea generation, creative thinking, and development of innovative solutions to the market and customer requirement. Therefore, the high level of ESN usage act as a greater platform in enhancing the innovative performance of the employees. By contributing to the enhancement of both in-role and innovative job performance, ultimately, ESN usage contribute to enhancing overall job performance of the employees.

Explanatory power of employee job performance construct

In addition to these hypotheses, the coefficient of determination (R^2) value of employee job performance was calculated to determine explanatory power of employee job performance from overall model. The analysis revealed an R^2 value of 0.384 for employee job performance. Therefore, it is apparent that there is a moderate level of explanatory power for the employee job performance construct.

The R^2 value of .0384 of employee job performance indicates that the 38.4% variance in job performance is explained by the overall model. Therefore, it is apparent that 61.6% of variance of the ESN usage construct is explained by some other factors. In literature, employee job performance is considered as a broader concept. Considering the nature of the study, the researcher was only interested on examining the effect of ESN usage on employee job performance which would have contributed to a lower explanatory power of the employee job performance construct.

The review of literature reveals that there is a wider spectrum of factors that could significantly influence employee job performance. For example, a study done by Diamantidis and Chatzoglou (2018) identified several categories of factors influencing

the employee job performance. According to them, the firm/environment relation factors include training culture, management support, environmental dynamism and organizational climate; job-related factors include job environment, job autonomy, job communication; and employee-related factors include intrinsic motivation, skill flexibility, skill level, proactivity, adaptability, commitment. Thus, it is apparent that there can be many other factors influencing the employee job performance other than the factors considered in this model. Therefore, a moderate level of R^2 value for the employee job performance construct is justifiable.

4.11. Summary

At the beginning of this chapter, the data cleaning process of the collected data of the study was explained which was followed by the analysis of demographic profiles of the respondents. Then the descriptive statistics, common method bias, normality and multicollinearity were tested and reported. Then, the PLS-SEM was assessed using the measurement model assessment and the structural model assessment. Under the measurement model, the validity and the reliability of lower order and higher order constructs were tested. Once the reliability and validity were ensured, the structural model was tested in order to assess the proposed hypotheses in the study. Results indicated that six hypotheses were supported, whereas two were not supported. Once hypotheses and the model fitness were tested, the discussion was undertaken on the findings of the study. The findings of the study were discussed with the support of previous literature. Here the findings and the discussion was undertaken under each research objective and finally the discussion on the overall model was presented.

5. CONCLUSION

5.1. Summary of the findings

Enterprise Social Networks (ESN) has become one of the prominent technologies that organizations adopt as they offer enormous protentional to facilitate communication, interactions and collaboration etc. Therefore, many organizations, especially large organizations, have spent a lot on ESN technologies. However, it was apparent that even though the ESN implementations are at a higher level, organizations have been unable to derive the associated benefits as a result of the lower adoption of these technologies by the employees (Chin et al., 2015). The lower level of adoption of ESN was evident due to lack of motivation of the employees to them. Consequently, previous researchers have examined the factors motivating the employees to use ESN. Examination of prior studies indicated that different researchers had examined different motivation-related factors. The literature review indicated that while certain factors were identified as significant factors affecting the use of ESN, the same factors have been identified by some other researchers as non-significant factors. Thus, it was found that the previous findings have mixed results and hence the previous findings are not conclusive. It was apparent that most of those studies have been conducted in different socio-technical backgrounds, especially in overseas countries, further using different responded groups. It was also evident that there is a dearth of research in this regard in the Sri Lankan context. Accordingly, the researcher was convinced that there is a clear knowledge gap in relation to the motives of employees affecting the use of ESN at work.

From the past literature, it was apparent that most of the organizations implemented the ESN related technologies with the intention of improving efficiency, effectiveness, and performance of both the employees and the organization (Lu & Pan, 2019). However, when it comes to the employee job performance especially, there were confusions on how ESN usage influences the employee job performance. According to some scholars, ESN usage can have a positive influence on employee job performance and others have suggested that ESN can create a negative effect on employee job performance. Thus, it was evident that the previous findings are

inconsistent. Similar to the researches examining the motives of employees on using ESN usage, the majority of researches had been conducted in different socio, economic and cultural backgrounds and with different respondent groups. Further, the researches examining the impact of ESN usage on employees' job performance were very much scarce in the Sri Lankan context. Hence the researcher was convinced that there is a clear research gap in this context too. The present research focused on bridging the two prevailing research gaps identified above. In order to fill the identified research gaps, the researcher set the following three objectives: to identify the gratifications/motivations that drive ESN usage; to identify the effect of the identified gratifications on ESN usage; and to identify the effect of ESN usage on employee job performance in terms of in-role job performance and innovative job performance.

In order to achieve the first objective, the researcher conducted an extensive literature review, thereby facilitating the researcher to identify the motives/gratifications affecting ESN usage. During this process, Uses and Gratification theory was identified as the primary theory explaining the gratifications of employees to use a specific media to satisfy their needs. Amongst the many gratifications identified through the previous studies, the researcher identified five gratifications which were most cited by previous researchers as the specific gratifications affecting the ESN usage for the present study. They are: information sharing, self-documentation, information seeking, entertainment and social interaction.

Next, a conceptual framework was developed based on the five gratifications identified. The conceptual framework depicted the relationships between the gratifications and the ESN use and between the ESN use and employee job performance. Consequently, six hypotheses were proposed based on the relationships existing between the variables in the conceptual framework.

The study followed a deductive approach and it was conducted as a quantitative study. Based on the nature and scope of the study, the employees working in the software industry and who use ESN consisted of the population of the study. However, due to the time constraints and the travel restrictions imposed in the country due to the COVID-19 pandemic, the researcher utilized purposive sampling and snowball

sampling methods as the sampling techniques to reach to the sample respondents. The minimum sample size was calculated as 97 using Danial Soper sample size calculator. Having calculated the sample size requirement, the data collection was undertaken. In this study, a structured questionnaire was used as the data collection technique. The questionnaires were distributed as online questionnaires to identified employees working in the software companies, who acted as the contact points of the researcher. They were asked and encouraged to share the questionnaires among their colleagues as much as possible. At the end data collection process, the researcher was able to collect a total of 168 questionnaires. However, during the data cleaning stage, 22 responses were removed from further analysis as those respondents did not have experience in ESN. However, since there were no any responses with missing values/non-responses, the total of 146 responses were used for the data analysis.

Data analysis was conducted in two stages using two statistical tools. First the demographic profile, descriptive statistics, common method bias and normality of the data set were analyzed using Statistical Package of Social Sciences. At the next stage the Partial Least Square based Structural Equation modeling (PLS-SEM) technique was used for the data analysis with the support of SmartPLS statistical tool. The PLS-SEM was conducted in two stages. First under measurement model assessment the reliability and validity were tested. The reliability and validity were tested for both lower order constructs and higher order construct. The results of the analysis confirmed that the internal consistency, indicator reliability, convergent validity and discriminant validity of all lower order and higher order constructs have been established. Having satisfied the reliability and validity requirements the structural model assessment was conducted.

The second objective was achieved through hypotheses testing. According to the results of the hypotheses testing, it was revealed that information sharing, self-documentation and social interaction motivations are significantly associated with ESN usage while information seeking, and entertainment do not have a significant effect on ESN usage.

The third objective was too achieved through hypotheses testing. First, the relationship between ESN usage and job performance was examined, and the results proved that ESN usage has a positive and significant effect on job performance. The analysis further revealed that ESN usage has a positive and significant effect on both the in-role and innovative job performance. The analysis of the coefficient of determination (R^2) revealed that the explanatory power of both the ESN usage and employee job performance are at a moderate level.

5.2. Theoretical implications

The analysis of the literature relevant to ESN use evidenced that even though there are research on the factors affecting the ESN usage, limited number of research have been conducted to identify uses and gratifications of technologies that motivate employees to use ESN. Instead, the uses and gratifications of technologies have been tested more by researchers in relation to technologies such as social media and social networks and not in relation to ESN use. In addition to achieving the research objectives, this study contributes to fill the above-mentioned research gaps existing in the domain in several ways.

First, by applying the Uses and Gratification theory to the enterprise social networks context, the study contributes to the existing knowledge as it provides an opportunity to analyse the usage of ESN purely from a motivational perspective. This contribution is important especially in a context where the technology usage has been assessed by most of the previous researchers utilizing frameworks such as technology acceptance model (TAM) and Unified theory of Acceptance and technology (UTAUT) which do not address the user motivations to adopt a specific technology.

Second, this study contributed to the existing knowledge by exploring and validating five constructs (information sharing, self-documentation, information seeking, entertainment and social interaction) which have been cited most by the previous researchers. This is another major contribution to the existing literature as this finding is going to benefit the future researchers pursuing research in this field.

Third, even though there were studies to examine how ESN usage affects to the areas like knowledge sharing, employee agility, employee efficiency, firm performance,

limited studies have been conducted on the effect of ESN usage on job performance. Further this study examined employee job performance in terms of two branches of job performance as in-role and innovative job performance, which have been tested rarely in past studies. This is an important contribution to the existing body of knowledge.

Fourth, this study presented a unique theoretical framework depicting the relationships between different gratifications motivating the employees to use a specific media and ESN use, and the effect of ESN on employee job performance. In the framework, the employee job performance is further examined in relation to in-role and innovative job performance. Since this framework has not been tested by previous researchers, it can give some insights to future researchers interested in this domain.

Fifth, when it comes to the Sri Lankan context, there were very limited number of research had focused on the use of ESN and no study had tried to fill the research gaps identified in this study. Therefore, this study fills an important research gap in the domain of using ESN in the Sri Lankan context.

Finally, this study can induce future researchers, especially in developing nations, to examine the use of ESN and their effects on employees and the organizations due to the increasing and important role played by Enterprise Social Networks in today's organizations.

5.3. Practical implications

With the wide range of benefits associated with the ESNs, it can be observed that more and organizations are implementing these networks at an increasing rate. This study provides several insights to the practitioners and organizations who have already adopted ESN and who intend to adopt them in the future.

First, with the implementation of ESN one of the main challenges that managers face is motivating and encouraging their employees to use ESNs for their work. Even the organizations who already using ESNs have the issue of increasing the level of ESN usage in order to derive the associated benefits of the technology. Therefore, in order to induce employees' acceptance and use of ESN it is important to have knowledge on

the different motivations that drive employee usage of ESNs. The literature review revealed five important motivations (information sharing, self-documentation, information seeking, entertainment and social interaction), established through prior research, which can be focused by organizations to induce employees to increase the use of ESN at work.

Second, the analysis revealed that out of the motivations/gratifications identified above, information sharing, self-documentation, and social interaction have positive and significant effects on the use of ESN at work by employees. However, the employees may not be aware about those specific capabilities available in ESN. Therefore, the organizations can especially focus on increasing the awareness of employees on those capabilities, which would in turn result in higher usage of ESN at work, giving more benefits to the organization. Further, creating a more collaborative and interactive organizational culture withing the organization can increase the necessity for areas like information sharing and social interaction, which in turn can drive employees to adopt ESN more.

Third, the findings revealed that ESN use results in higher employee job performance. Therefore, the organizations can justify the spending they make on ESN as it is related with increased performance of employees. This is important in a context where there is doubt about the impact of such IT related investments on the performance of organizations, which may sometimes result in resistance to such investments.

Fourth, there can be employees who do not have adequate technical skills to use ESNs. However, since the findings of this research have established that higher ESN usage result in higher employee job performance, the organizations have to devise methods and strategies on improving necessary technical skills of employees so that they can efficiently and effectively use ESN.

Fifth, further to above mentioned practical implications that are relevant to the organizations which currently use ESN or intend to use ESN in the future, this study can have practical implications to the ESNs developers as well. The findings of this study revealed that the most critical gratifications that induce employees to use ESN are information sharing, self-documentation, and social interaction. Therefore, ESN

developers can focus on improving those capabilities and associated features more which could result in higher use of those systems by the employees.

5.4. Limitations

The research study consists of several limitations as well. Due to the time limitation and difficulty in covering the entire population, the researcher collected data from the employees in the software industry following the purposive and snowball sampling techniques. Therefore, generalizing the results to the entire population could be limited.

In this research, the researcher tested only the direct effects of motivations on ESN usage and the effect of ESN usage on employee job performance. However, there can be other indirect and mediating effects which were not examined in this study. Further, the ESN use may be moderated by factors such as ESN platform used by the employee, their functional level, job level as well as their experience with ESN. Such moderating effects too were not examined in this study.

Even though the minimum required sample size was 97 the researcher wanted to collect responses from more than 200 to increase the generalizability of the results. However, several reasons impeded the achievement of that target. Limited time available for accomplishing the research was one reason. The travel restrictions and health guidelines such as social distancing enforced due to COVID-19 pandemic prevented the researcher from visiting the organizations and meeting the respondents in person. The only available option left for the researcher was to communicate the questionnaires online. Further, before sending the questionnaires, the researcher had to ensure that the targeted organizations use ESN at work. Therefore, initially, a contact person from each organization had to be found to ensure that they use ESN and then ask him/her to distribute the questionnaire among the colleagues. Therefore, the researcher had no direct contacts with the end respondents, apart from the contact person in each organization. This resulted in collecting only146 usable responses at the end. Thus, the smaller sample size too can restrict the generalizability of the results to the entire population.

5.5. Future direction

The findings and the limitations discussed in the study clearly reflect different avenues which can be investigated in future research. In this study, researcher has identified a pool of factors that motivate people to use a particular media and only five of factors which were cited most by the previous researchers were tested through the theoretical framework. However, in addition to these five factors there may be some other motivations which can have a direct effect on ESN usage. Therefore, future researchers can expand this framework to incorporate more factors.

This study focused only on the direct effects of gratifications on ESN use and ESN use on employee performance. However, there can be other indirect effects and moderating effects on ESN use and employee performance. Therefore, the future researchers can examine such effects, in addition to the direct effects examined in this study.

In this study, the factors that drive ESN usage was tested purely from a motivational viewpoint. Therefore, the insights were taken only based on the uses and gratification theory. However, rather than focusing on a single theory, future researchers can integrate several theories in identify the factors the motivating employees to use ESN. Such an approach may result in more precise findings.

Further, this study only focused on the software industry. However, the motivations identified and the effect of ESN on employee job performance can differ from industry to industry. Therefore, the future researchers can replicate this study into a different industry and examine how the results may differ. Further, rather than targeting a specific industry, the future researchers can also consider several industries and perform a cross industry analysis to compare the results between different industries.

Finally, the present study focused on the effect of ESN use on individual employee performance. The future researchers may examine the same effect at organizational level to determine whether the ESN use is significant for improving organizational performance.

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APPENDIX A – QUESTIONNIARE

The Motives affecting Enterprise Social Networks and the effect of enterprise social network usage on in-role and innovative performance

Dear Sir / Madam,

I am Piruni Ashirwadi Deyalage and conducting this survey as a partial fulfillment of Masters of Business Administration in Information Technology degree program offered by Faculty of Engineering, University of Moratuwa. The objective of this survey is to examine how different motivations affect Enterprise social networks (ESNs) use and how it influences on in-role and innovative job performance of the employees who are working in the Software industry in Sri Lanka.

Enterprise Social Networks can be defined as online platforms that aims at improving employees' work performance through facilitating internal communications, knowledge sharing, and collaboration. Commonly used ESNs by organizations include Yammer, Workplace by Facebook, Slack, Chatter, and Jive.

In order to be eligible for this survey, the respondent, at least to some degree must use Enterprise Social Networks in their organization in order to perform their work. The respondents are expected to fill this questionnaire based on their experience with the ESNs used at the workplace. All your responses will remain completely anonymous and confidential and will only be used for the academic purposes.Your participation in this survey is highly appreciated.

Section 01 : Demographics

Please tick (✓) the suitable answer

Gender

	Male
	Female

Age

	Less than 25
	26-35
	36-45
	46-55
	56-65
	More than 65

Functional area

	Information technology
	Sales and marketing
	Finance and accounting
	Human resources
	Other (Please specify)

Job level

	Senior management
	Middle management
	Lower level management
	Operational level employess

Name the type of Enterprise Social Network used in the organization

	I don’t know
	Workplace by Facebook
	Yammer
	Slack
	Jive
	Chatter
	Other (Please specify)

Experience in using enterprise social networks

	Less than 1 year
	1 - 3 years
	3 - 5 years
	5-7 years
	More than 7 years

Section 02: Gratifications

Following statements are used to measure the respondents' perception on the use of Enterprise Social Networks (ESNs). Please indicate the level of agreement or disagreement based on your experience in Enterprise Social Networks.

Information Sharing	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I use ESN to provide information							
I use ESN to share information useful to other people							
I use ESN to present information on my interests							
I use ESN to create content in collaboration with colleagues							
Self-documentation							
I use ESN to keep a record of what I learn							
I use ESN to document my work							
I use ESN to keep track of what I am doing							
Information Seeking							
I use ESN to obtain work related information and knowledge							
I use ESN to search work related information and knowledge							
I use ESN to access content created by my colleagues							
I use ESN to obtain useful information							
I use ESN to obtain new information							
Entertainment							
I use ESN because it is enjoyable							
I use ESN to take a break from work							
I use ESN because it enables me to pass the time, especially when I'm bore							
I use ESN to relax at work							
I use ESN to exchange (i.e. consume and/or contribute) entertaining content through the platform							

Social Interaction							
I use ESN to connect with colleagues							
I use ESN to communicate with colleagues							
I use ESN to create new relationships at work							
I use ESN to get acquainted with colleagues who share my interests							
I use ESN to get to know people I would otherwise not meet at work							
I use ESN to maintain close social relationships with people at work							
I use ESN to discover colleagues with interests similar to mine							

Section 3: Enterprise social networks usage at work

Following statements are used to measure the respondents' level of ESN usage. Please indicate the level of agreement or disagreement based on your experience in Enterprise Social Networks

Enterprise Social Network usage	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I use the ESN very frequency to support my work.							
I like to use ESN							
I use the ESN very intensively to support my work							
I depend upon the ESN							
Overall, I use the ESN a lot							

Section 04: Employee job performance

Following statements are used to measure the job performance of the respondents. Please indicate the level of agreement or disagreement based on your experience in Enterprise Social Networks.

In-role job performance	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I always complete the duties specified in my job description							
I meet all the formal performance requirements of my job							

I fulfill all responsibilities required by my job							
I never neglect aspects of the job I am obligated to perform							
Innovative job performance							
I always create new ideas for improvements.							
I generate innovative solutions to problems							
I search out new working methods, techniques, or instruments							
I transform innovative ideas into useful applications							
I acquire management approval for innovative ideas							
I produce innovative ideas for work improvement more often							

Thank you very much for your time and cooperation.

APPENDIX B: TEST OF NORMALITY USING BOXPLOTS

Figure 1: Outliers of Information Sharing

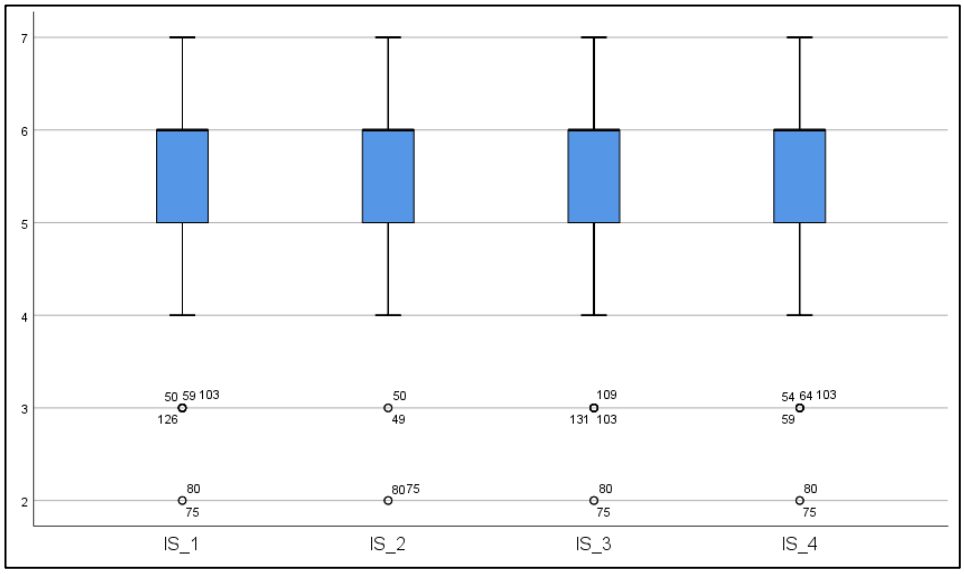


Figure 2: Outliers of Self documentation

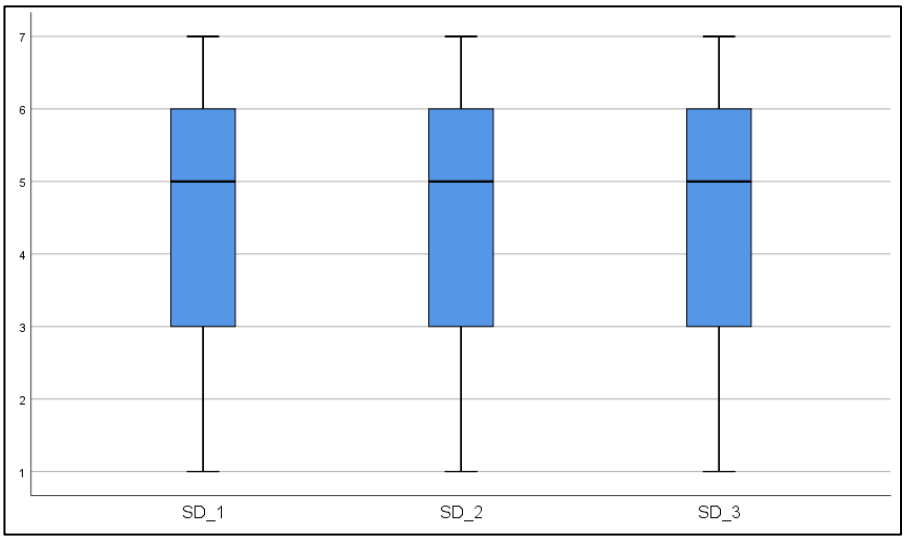


Figure 3: Outliers of Information Seeking

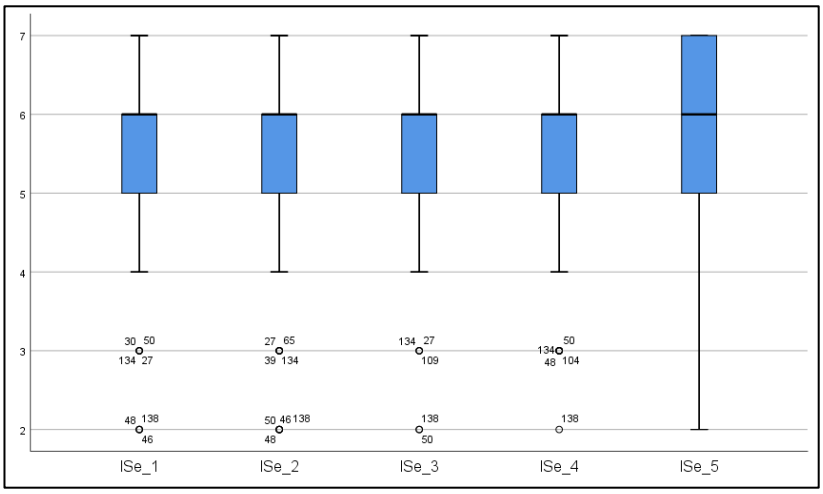


Figure 4: Outliers of entertainment

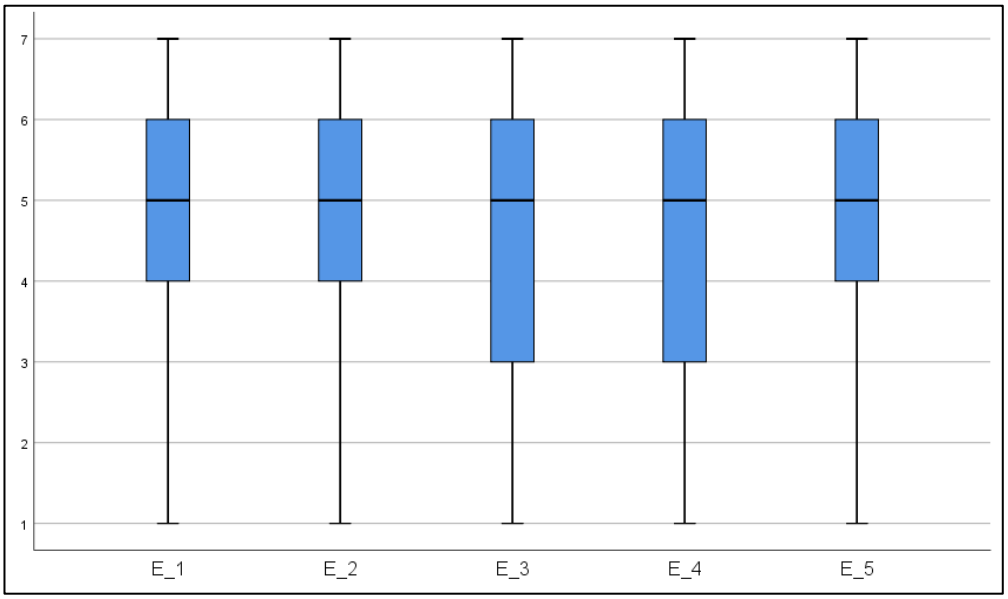


Figure 5: Outliers of Social interaction

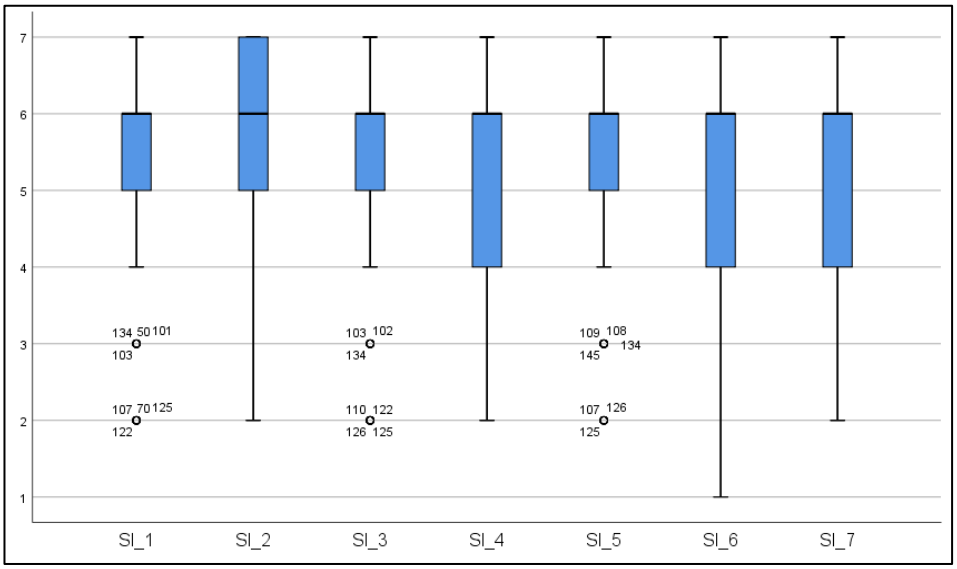


Figure 6: Outliers of ESN usage

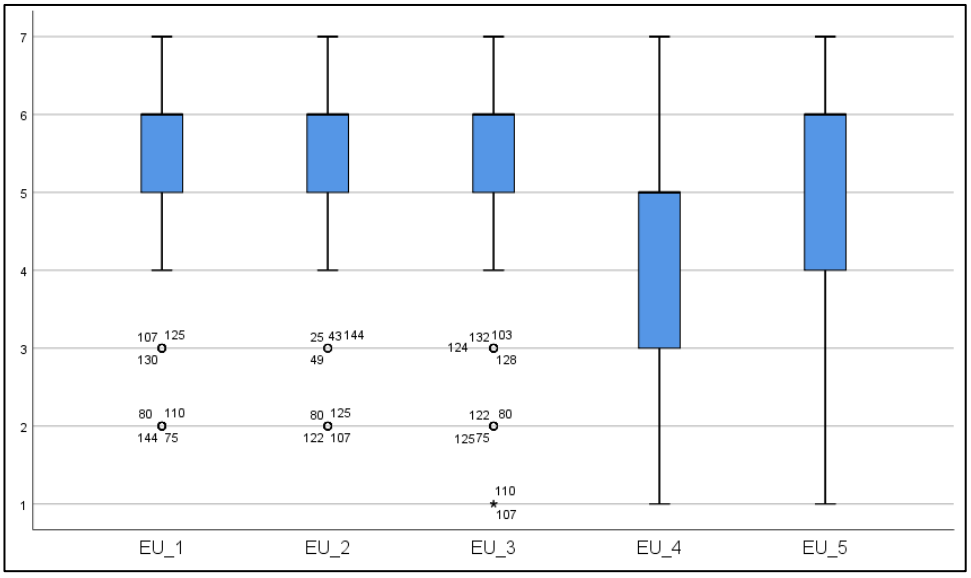


Figure 7: Outliers of in-role job performance

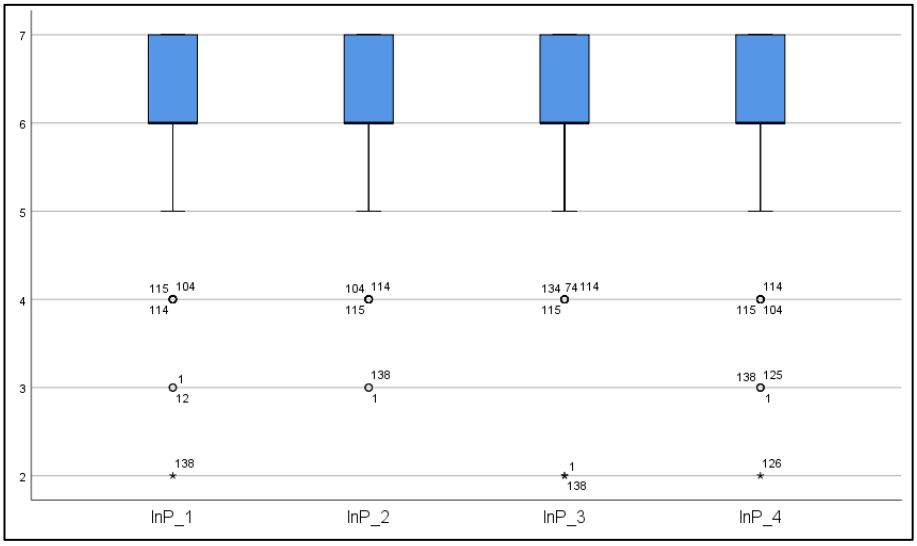
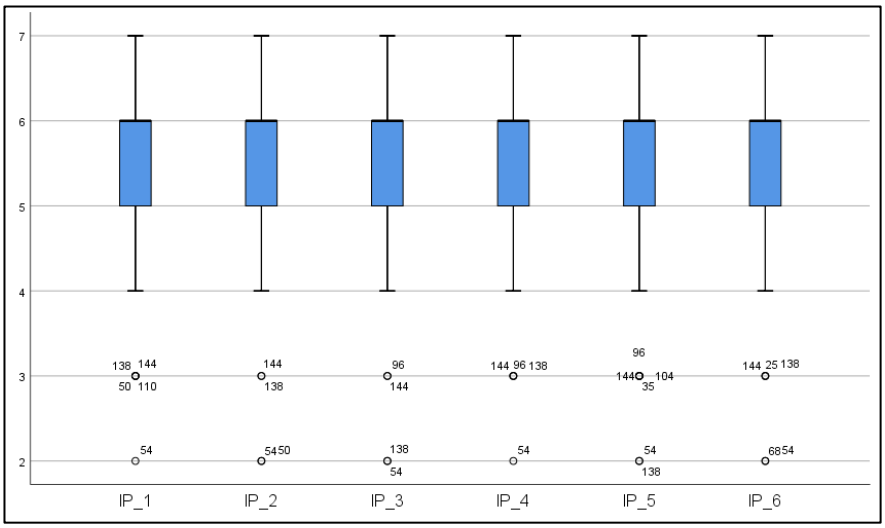


Figure 8: Outliers of innovative job performance



APPENDIX C: COMMON METHOD BIAS

Table 1: Harman's single factor analysis output

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.402	47.184	47.184	18.402	47.184	47.184
2	4.549	11.664	58.847	4.549	11.664	58.847
3	2.885	7.398	66.246	2.885	7.398	66.246
4	2.328	5.970	72.215	2.328	5.970	72.215
5	1.707	4.377	76.592	1.707	4.377	76.592
6	1.297	3.326	79.918	1.297	3.326	79.918
7	1.134	2.909	82.827	1.134	2.909	82.827
8	.695	1.782	84.610			
9	.634	1.625	86.235			
10	.506	1.296	87.531			
11	.406	1.042	88.574			
12	.391	1.004	89.577			
13	.341	.873	90.451			
14	.329	.843	91.294			
15	.286	.733	92.027			
16	.271	.695	92.722			
17	.256	.656	93.378			
18	.229	.588	93.965			
19	.225	.578	94.543			
20	.204	.524	95.067			
21	.181	.463	95.530			
22	.174	.446	95.976			
23	.164	.420	96.396			
24	.149	.383	96.779			
25	.141	.361	97.140			
26	.135	.347	97.487			
27	.125	.321	97.808			
28	.112	.287	98.094			
29	.106	.271	98.365			
30	.103	.263	98.628			
31	.094	.241	98.870			
32	.078	.201	99.071			
33	.073	.186	99.257			
34	.067	.172	99.429			

35	.060	.155	99.584
36	.049	.126	99.710
37	.041	.104	99.814
38	.038	.098	99.912
39	.034	.088	100.000

Source: Survey data

APPENDIX D: TEST OF NORMALITY

Table 1: Skewness and Kurtosis

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
IS_1	146	-1.189	.201	.775	.399
IS_2	146	-1.540	.201	2.323	.399
IS_3	146	-.923	.201	.236	.399
IS_4	146	-1.126	.201	.672	.399
SD_1	146	-.374	.201	-.836	.399
SD_2	146	-.284	.201	-1.097	.399
SD_3	146	-.475	.201	-1.071	.399
ISe_1	146	-1.618	.201	3.122	.399
ISe_2	146	-1.370	.201	1.889	.399
ISe_3	146	-1.783	.201	3.776	.399
ISe_4	146	-1.638	.201	3.176	.399
ISe_5	146	-1.667	.201	2.970	.399
E_1	146	-.470	.201	-.275	.399
E_2	146	-.648	.201	-.293	.399
E_3	146	-.475	.201	-.813	.399
E_4	146	-.528	.201	-.536	.399
E_5	146	-.824	.201	-.279	.399
SI_1	146	-1.244	.201	.808	.399
SI_2	146	-1.119	.201	.324	.399
SI_3	146	-1.054	.201	.382	.399
SI_4	146	-.912	.201	.147	.399
SI_5	146	-1.107	.201	.592	.399
SI_6	146	-.952	.201	-.077	.399
SI_7	146	-.868	.201	.003	.399
EU_1	146	-1.569	.201	2.836	.399
EU_2	146	-1.469	.201	2.703	.399
EU_3	146	-1.436	.201	2.542	.399
EU_4	146	-.604	.201	.064	.399
EU_5	146	-1.112	.201	.879	.399
InP_1	146	-2.451	.201	7.764	.399
InP_2	146	-2.292	.201	8.125	.399
InP_3	146	-2.429	.201	8.451	.399

InP_4	146	-2.160	.201	7.071	.399
IP_1	146	-1.989	.201	6.198	.399
IP_2	146	-2.063	.201	6.160	.399
IP_3	146	-1.793	.201	5.718	.399
IP_4	146	-1.887	.201	6.227	.399
IP_5	146	-1.683	.201	4.403	.399
IP_6	146	-1.800	.201	5.619	.399

Source: Survey data

APPENDIX E: INDICATOR RELIABILITY

Table 1: Item Outer loadings

	E	EU	IP	IS	ISe	InP	SD	SI
EU_1		0.914						
EU_2		0.870						
EU_3		0.925						
EU_4		0.784						
EU_5		0.911						
E_1	0.828							
E_2	0.927							
E_3	0.919							
E_4	0.903							
E_5	0.902							
IP_1			0.911					
IP_3			0.863					
IP_4			0.927					
IP_5			0.899					
IP_6			0.939					
IS_1				0.939				
IS_2				0.946				
IS_3				0.930				
IS_4				0.916				
ISe_1					0.947			
ISe_2					0.917			
ISe_3					0.937			
ISe_5					0.914			
InP_1						0.879		
InP_2						0.914		
InP_3						0.939		
InP_4						0.926		
SD_1							0.890	
SD_2							0.946	
SD_3							0.936	
SI_1								0.894
SI_2								0.885
SI_3								0.932
SI_5								0.890
SI_6								0.920
SI_7								0.828

Source: Survey data

Table 2: Item Cross loadings

	E	EU	IP	IS	ISe	InP	JP	SD	SI
EU_1	0.318	0.914	0.565	0.552	0.371	0.573	0.597	0.519	0.526
EU_2	0.446	0.870	0.530	0.540	0.328	0.533	0.557	0.404	0.622
EU_3	0.421	0.925	0.572	0.578	0.429	0.583	0.606	0.528	0.594
EU_4	0.301	0.784	0.398	0.322	0.198	0.359	0.400	0.357	0.407
EU_5	0.423	0.911	0.530	0.516	0.349	0.498	0.541	0.545	0.587
E_1	0.828	0.437	0.388	0.530	0.364	0.315	0.373	0.473	0.582
E_2	0.927	0.347	0.404	0.467	0.386	0.314	0.382	0.396	0.556
E_3	0.919	0.343	0.264	0.394	0.279	0.185	0.240	0.417	0.526
E_4	0.903	0.357	0.341	0.427	0.328	0.237	0.310	0.401	0.545
E_5	0.902	0.438	0.407	0.540	0.426	0.319	0.386	0.473	0.670
IP_1	0.341	0.556	0.911	0.474	0.507	0.771	0.890	0.350	0.445
IP_1	0.341	0.556	0.911	0.474	0.507	0.771	0.890	0.350	0.445
IP_3	0.254	0.477	0.863	0.388	0.400	0.738	0.846	0.259	0.309
IP_3	0.254	0.477	0.863	0.388	0.400	0.738	0.846	0.259	0.309
IP_4	0.425	0.524	0.927	0.395	0.442	0.760	0.894	0.339	0.419
IP_4	0.425	0.524	0.927	0.395	0.442	0.760	0.894	0.339	0.419
IP_5	0.415	0.583	0.899	0.450	0.399	0.708	0.854	0.340	0.455
IP_5	0.415	0.583	0.899	0.450	0.399	0.708	0.854	0.340	0.455
IP_6	0.415	0.558	0.939	0.453	0.423	0.724	0.884	0.372	0.427
IP_6	0.415	0.558	0.939	0.453	0.423	0.724	0.884	0.372	0.427
IS_1	0.445	0.530	0.455	0.939	0.531	0.474	0.486	0.526	0.551
IS_2	0.435	0.547	0.427	0.946	0.523	0.429	0.449	0.537	0.556
IS_3	0.526	0.524	0.485	0.930	0.540	0.455	0.495	0.525	0.614
IS_4	0.588	0.558	0.412	0.916	0.529	0.401	0.427	0.585	0.633
ISe_1	0.317	0.370	0.449	0.538	0.947	0.542	0.514	0.417	0.432
ISe_2	0.384	0.308	0.402	0.477	0.917	0.483	0.460	0.356	0.391
ISe_3	0.332	0.386	0.460	0.548	0.937	0.567	0.533	0.398	0.450
ISe_5	0.471	0.372	0.462	0.542	0.914	0.516	0.510	0.353	0.461
InP_1	0.267	0.470	0.688	0.446	0.572	0.879	0.811	0.320	0.285
InP_1	0.267	0.470	0.688	0.446	0.572	0.879	0.811	0.320	0.285
InP_2	0.276	0.517	0.718	0.455	0.493	0.914	0.845	0.285	0.344
InP_2	0.276	0.517	0.718	0.455	0.493	0.914	0.845	0.285	0.344
InP_3	0.290	0.546	0.814	0.405	0.518	0.939	0.913	0.273	0.372
InP_3	0.290	0.546	0.814	0.405	0.518	0.939	0.913	0.273	0.372
InP_4	0.305	0.605	0.758	0.422	0.507	0.926	0.874	0.295	0.375
InP_4	0.305	0.605	0.758	0.422	0.507	0.926	0.874	0.295	0.375
SD_1	0.433	0.433	0.291	0.579	0.430	0.309	0.314	0.890	0.428
SD_2	0.466	0.471	0.320	0.492	0.342	0.273	0.314	0.946	0.460

SD_3	0.454	0.573	0.390	0.549	0.376	0.304	0.369	0.936	0.563
SI_1	0.532	0.597	0.386	0.594	0.461	0.344	0.386	0.495	0.894
SI_2	0.507	0.597	0.371	0.644	0.475	0.344	0.377	0.513	0.885
SI_3	0.569	0.580	0.377	0.552	0.390	0.338	0.378	0.417	0.932
SI_5	0.607	0.560	0.469	0.559	0.412	0.368	0.445	0.470	0.890
SI_6	0.639	0.556	0.421	0.550	0.384	0.316	0.393	0.505	0.920
SI_7	0.657	0.439	0.411	0.457	0.377	0.304	0.381	0.433	0.828

Source: Survey data

APPENDIX F: RELIABILITY AND VALIDITY OF HIGHER ORDER CONSTRUCT

Table 1: Calculation of Composite reliability

Higher Order Construct (HOC)	Lower Order Constructs (LOC)	Loadings between HOC and LOC	Squared Loading Values	1 - Squared Loadings	Sum of Loading values of the Lower Order Components	Squared Sum of Loading values of the Lower Order Components	Composite Reliability of Higher order Construct
Job performance	In-role job performance	0.942	0.887	0.112	1.905	3.629	0.951
	Innovative job performance	0.963	0.927	0.072			

Note: Composite reliability = 3.629 /(3.629+(0.112+0.072)) = 0.951

Table 2: Calculation of Average variance extracted

Higher Order Construct	Lower Order Components	Loadings/Path Coefficients Between Higher Order Constructs and Lower Order Constructs	AVE of Higher order construct
Job performance	In role job performance	0.942	0.952
	Innovative job performance	0.963	

Note: AVE = (0.942^2) +(0.963^2)/2

Table 3: Calculation of HTMT value

Construct	Average cross loadings	Average item correlation	Construct correlation	Geometric mean	HTMT
Job performance	0.514	0.722	0.676	0.699	0.736

Note: Average cross loading - InP and IP cross loadings' average with EU, Average item correlation is the item correlation -average item correlation of items of EU, Construct correlation -eg: the correlation value between InP and IP.