

# **Authentic Leadership, Psychological Capital and Innovative work behavior: Moderating role of Thriving at work in IT industry of Pakistan**

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**NATIONAL UNIVERSITY OF MODERN LANGUAGES  
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# **Authentic Leadership, Psychological Capital and Innovative work behavior: Moderating role of Thriving at work in IT industry of Pakistan**

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## **ABSTRACT**

Nowadays the IT sector wants innovation and creativity from its employees so that they can remain competitive by introducing new software and services for its customers. Considering this emerging challenge and following the literary gap, this study aims to empirically test a research model investigating the effects of authentic leadership (AL) and psychological capital (PsyCap) on employees' innovation work behavior (IWB) with employees' thriving at work (TAW) as a partial moderator. The data were collected from 362 participants occupying a middle level positions in software houses, validates the hypothesized research model and results were generated using SPSS. The hypothesized relationships were analyzed with structural equation modeling and multilevel regression analysis results demonstrated that authentic leadership and psychological capital has positive and significant impact on innovative work behavior of employees and thriving at work has been proved as variable that has moderating effect on these variables. The findings of this research can be applied in software houses of Pakistan as it will help management in increasing their innovation at work place. This research is still based on a limited sample size and demands further validation through a larger and wider sample size and only a specific sector. Meanwhile research conducted area is limited (i.e., Twin city, Rawalpindi and Islamabad), area should be increased in further researches.

**Keywords:** Authentic Leadership, Innovative Work Behavior, Psychological Capital, Thriving at Work, Software Industry

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# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the research

In today's highly competitive service world, many companies face rapid and dynamic changes, organizations prefer the option of cost cutting to balance overall the accounting books (Afridi et al., 2020). whilst cost reduction specifically reduction of personnel or employees, might bring brief term monetary advantages. Organizations want to take into account of its damaging long term results. Without making essential changes to the manner it operates the present employees could be beaten with the stress and work overload which could subsequently cause more resignations, absents, terrible nicely-being and get worse customer support levels (Akram et al., 2020). There is a brilliant growth in competition among organizations in these day's commercial enterprise surroundings. Organizational groups attempt to distinguish their selves from the others organizations via innovation. In employer aspect, innovative work is a vital component in retaining healthy working environment along with modifications within the competitor and environmental forces short term and long term strategies (Du Plessis & Boshoff, 2018). organizations need to inculcate an innovative mindset amongst its employees to deliver greater cost creation in order to maintain its longer time period survival and achievement (Mehdad & Sajadi, 2019). De Jong and Den Hartog (2010) summarized any company's innovation is based on innovative work behavior of the personnel at their work place to innovate their strategies, techniques and operations. The researcher defined that Innovative behavior at workplace is production its implementation of latest ideas, strategies and techniques at place of work (West & Farr, 1990). In another study Korzilius 2017) said that employee's innovation within the place of work is a basis of any outclass-performance organization. Employee's innovation gives boost to organization in developmental process (Ibus, Wahab & Ismail, 2020). This is obvious because the base of an expertise economic system. Wherein intangible assets are such assets that plays a greater considerable part within the company, along

with competencies to affect and increase competitiveness through “working greater with less” (Crossan & Apaydin, 2009). It gives edge to that specific organization in the business environment (Carmeli & Spreitzer 2009). Scott and Bruce (1994) said that innovative work behavior may be described as “on purpose making, implementation, and recognition of recent ideas in a job specification, organization, or employer”. Companies found out the significance of personnel’s innovative work behavior as an intangible strength that result in high-quality thoughts to stay more competitive, irrespective of mission duty or degree within the organizational hierarchy ( Riaz, Xu & Hussain, 2018). For this reason, innovative work activities along with the procedure that encourages this behavior is an area of essential significance in business discipline ( Korzilius , 2017; Scott & Bruce, 1994).

In recent times, the significance of innovation for promoting business effectiveness is broadly accepted (Yuan & Woodman, 2010). The potential to constantly innovate products, offerings, and technology and work procedures is considered as essential for retaining competitive benefit of industries in business sector (Yuan & Woodman, 2010). Additionally to the general public region (Damanpour, Walker, Chen & Aravind, 2014). Ibus, Wahab , and Ismail, 2020 concluded in their study that In widespread, studied related to innovation have focused on the administration of innovation on the tiers of groups, work groups, networks and people. Figuring out numerous strategies, techniques and elements motivating or preventing the development and implementation of recent products, technology and work procedures (Borins, 2008). Innovative work behavior of personnel’s is defined as making and execution of latest thoughts for modified work strategies and achieving end results (Yuan & Woodman, 2010). Kanter (1983) stated that it is mostly disused a critical factor organizations that consider for innovativeness as a determining factor for achievement in vibrant environments. This significance because of the truth that the foundation in addition to the consumption of innovation depends on personnel, causing their separate actions to be of essential importance for the fast growing organizational strategies for achieving ultimate (Nurjaman et al., 2019). This assumption is not considered simple as in theories of innovation but is likewise determined within the fields of TQM achievement (Prahalad & Ramaswamy, 2012) and firm entrepreneurship (Kanter, 1983). In past decades business atmosphere is turned more dynamic and it has increased the competition for organizational sustainability, so they have to be more competitive in order to survive in the dynamic atmosphere (Yuan & Woodman, 2010). Barney (1991) stated that human resource is a

crucial source for organization for gaining competitive edge. The uncertainly shifting organizational atmosphere bring optimistic outcomes, and employees with the aim of staying competitive engage in work and respond more innovatively (Kanter, 1983; West & Farr, 1989). It has been argued by many authors that innovativeness is crucial for employees as it makes a contribution in effectiveness for organization in challenging business atmosphere (Yuan & Woodman, 2010). Innovativeness of personnel must contribute to change working environment into efficaciously working in vibrant business surroundings (Kanter, 1983). Walumbwa, Christensen-Salem, Hsu and Misati, 2018 concluded that, innovative behavior of personnel is the adoption or generation of innovative and useful ideas and the implementation of those ideas. It does now not totally mean generation of new ideas however additionally consists of behaviors for implementing the ones thoughts to perform innovation (De Jong & Den Hartog, 2010). Furnham & Bachtiar (2008) concluded that innovative work behaviors is core construct for a successful organization , as innovation is a central compulsion for any business (Abstein & Spieth, 2014). Author emphasized on the innovative work behavior and stated it's not only a key aspect for any business itself but also important in long term survival and sustainability within the business sector (De Jong & Den Hartog, 2010). Furthermore Madjar and Shalley (2008) concluded that organizational groups require innovative human beings to preserve competitive edge within the industry. Furnham and Bachtiar (2008) highlighted the importance of innovation and stated that knowing the significance of innovation among personnel for sustainability organization; many authors have focused on relative in addition to dispositional components that encourage innovative behaviors within the place of work. It has been determined, that weak management and work overload frequently affect personnel's innovativeness (Walumbwa, Luthans, Avey, & Oke, 2011). An emerging supportive surroundings that offers push to links amongst employees, may increase innovative work behavior (Jason & S. N, 2019). Carmeli and Spretizer (2009) concluded that innovative work behaviors are the factors that bring success of a hit business. Boyd, (2015) explained that organizations are searching out talented individuals that will thrive on chaos, and learn proactively and develop themselves after going through hardships and challenges, and excel irrespective of what number of or how extreme the situation will become but they will come across in day after day routine. Additionally to acquire innovation, an employee needs organizational support for encouraging their morals because innovative behaviors towards works are a central key to success in organizations (Carmeli & Spretizer,

2009). As well as Abstein and Spieth (2014) concluded that innovation is a fundamental for every business. Innovative work behavior consists of analyzing organization's surroundings for innovation, discussing goals of innovation after which accumulating sources and setting goals for enforcing innovation (Scott & Bruce, 1994). Jensen and Luthans (2006) exhibited that it is observed from literature that leaders have massive impact on employees. Authentic leadership specially focus on effective achievements instead of stressing weaknesses, encourages employee trust that result in emotional stability and exceptional idea suggestion (Peterson & Luthans, 2003). Mainly centered on its qualities, authentic leadership should be appropriate for exciting creativity and innovation. but, more empirical studies needs to be carried out with the intention to completely get the mechanisms through which authentic leaders put forth their influence on innovative behaviors (Yammarino et al, 2008).The importance of leadership style will increase within the industry area, because it has direct effect on economic development. Consequently, that allows you to live ahead of competition, organizations should manage their human assets efficiently by way of using specific leadership styles (Asrar-ul-Haq, 2015). Avolio and Gardner (2005) suggested that authentic leader can easily influence workers behavior and performance at work and their results that are maintainable in the present day, unbalanced work environment. As the business sector of Pakistan is going through multiple issues like lack of innovative work behavior among personnel (Asrar-ul-Haq, 2015), the significance of authentic leadership has improved. Human resources are one of the most significant part and they need to be influenced for enhancing innovative work behavior with the influence of Authentic leadership and an environment where they finds the opportunity to learn and grow. When personnel being given chance to learn in the office environment and grow in work surrounding, they will thrive and so will your organization (Spreitzer, Porath, & Gibson, 2012). Innovation implies the technology, recognition, and implementation of recent ideas, strategies, products, or offerings. Many researchers focus on the significance of such an orientation to improving innovation functionality. In business industry nowadays, companies want to keep a thriving team of workers via one kind of strategies so that it will stay in competition and continue to uphold their performance (Asrar-ul-Haq, 2015). Walumbwa et al. (2018) stated that thriving is crucial factor that enhance overall performance of employee and lead to innovativeness. Carmeli and Spreitzer (2009) focused the role of thriving and taken into consideration it as an crucial factor influencing innovative behavior. Studies has in addition recommended that thriving at work relies upon on

relative factors that allows you to uphold innovativeness among employees work ( Spreitzer et al. 2012). Organizations, as advocated by positive organizational behavior, are now focusing on the development of strengths and psychological capabilities of their employees so that they may become more proactive, collaborative and responsible, and devoted ones (Bakker & Schaufeli, 2008). Currently, researchers have determined that employees' psychological capital has a strong capability to enhance employee innovativeness (Rego, Sousa, Marques, & Cunha, 2012). Psychological capital considered as an being's optimistic mindset of enhancement to uterine their cognitive and motivational capabilities to attain an excessive level of overall performance (Walumbwa, Luthans, Avey, & Oke, 2011). Psychological capital is known as a crucial factor for overall behavior of man or woman at place of work (Hartnell et al., 2010). psychological capital has been proven to offer additional value to greater installed attributes of worker' optimistic behaviors (Walumbwa, Christensen, & Hailey, 2011), moreover to demographic and extra conventional person alternative constructs together with core self-opinions, personality developments, and individual-job fit in their job framework (Ahmed, Najmi, Mustafa & Khan, 2019). Luthans et al, (2007) stated that it denotes to a man or woman's positive psychological capabilities and it is a type of a variable which is theoretically applicable on innovation.

One of the emerging strengths and psychological capabilities is “thriving” (Paterson, Luthans, & Jeung, 2013). It is a psychological state which enables people to grow and develop in their respective circumstances (Spreitzer et al., 2005). Prior literature has revealed numerous benefits of thriving both at individual and organizational level (Porath.,Spreitzer, Gibson,& Garnett, 2012). Participation amongst colleagues at place of work, forming creative thoughts inspires learning which eventually lead to sense of vitality. Spreitzer et al. (2005) exhibited that experience of vitality which is experiencing alive and energetic and experience of learning which is developing understanding and know how about work, represent thriving at work. Thriving enhances the innovativeness at work, as it is known that employees who experience thrilled and alive they additionally promote learning at their place of work as compared to the ones who doesn't thrive (Crossan & Apaydin 2010). The connection among thriving and innovative work behavior expands our perspectives regarding significance of thriving at work. Given the impact of thriving, it is recommended analyzing interrelationship among authentic leadership, psychological capital and innovative work behavior.

## 1.2 Research Gap

A latest study undertook a systematic assessment of previous research on innovative work behavior and high work commitment and further recommended that researchers can focus on describing the impact of various moderating situations for the variables and their respective relationships taken into consideration in this research. As there may be many different facets which could affect the relationship among innovative work behavior r. furthermore, researchers can increase the validity of these findings by means of incorporating different control variables on this study and other influential variables (Ahmed et al., 2018). Riaz, Xu and Hussain (2019) focused on innovative behavior of employees and thriving at work and directed that further investigation can be done by adding some other predictors like Authentic Leadership. Afsar and Masood (2017) investigated innovative work behavior and directed that their research concentrated on supervisor support, Upcoming research may pay attention to other combination of variables as psychological capital. Thriving at work is main variable Xu and his colleagues studied and they directed that it could be studied with other leadership styles and new phenomena's could be studied (Xu ,Loi, & Chow, 2019).Zubar and Kamal (2017) investigated Authentic leadership and innovative work behavior with the mediated impact of Psychological capital further suggest that new variable may be added to further describe to study its other aspects. Our findings pointed out that there is need for future research and scholars may focus on applicable dimensions for operationalizing thriving and associate its validity with other variables (Kleine, Rudolph, & Zacher. 2019). Spreitzer and Hwang (2019) studied thriving at work and directed that future research could be conducted on thriving and positive psychological resources. Another study concentrated on mediating role of thriving with innovative behavior, turnover intension and perceived organizational support, and it is recommended to investigate this relationship with the moderating consequence of thriving at place of work (Abid , Zahra, & Ahmed, 2015). Tak, Seo and Roh (2019) studied Psychological Capital has been studied earlier with Authentic leadership but the findings were mixed and it needs future investigations with other variables that determine innovative work behavior. Kleine, Rudolph and Zacher ( 2019) conducted meta-analysis on thriving at work and directed that researchers could investigate the operationalizing thriving at work and study it with different variables . Regardless of the reality that multiple studies was conducted on innovative work behavior, noticeably less consideration

is focused in the moderating consequence of thriving. Consequently, further investigation should probe in to the links among of thriving at work in developing countries (Boyd, 2015). Many researches has been thoroughly studied on psychological capital and its effect on innovation, and I has been argued that every single sector possess its own important set of activities and outcomes. They stated that particular variable including innovative work behavior may also bring modification other aspects of new research, (Cui et al., 2012). An analysis is been required for the examine the role of innovative work behavior along with alternative variables, Abbas and Raja (2015) examined psychological capital and innovative enactment. Data of the study was gathered from diverse sources such as bank workers, employees at government ministry, fabric industry etc., despite the fact that innovation won't be really applicable in organizations as compared to high-tech firms, but modern ideas with the complete plan of execution is a job requirement in all firms. That stated, further research need to inspect the outcomes after adding psychological capital resources with innovative behaviors in organizations that pays attention to innovation and consider it as is highly important for maintainable organizational growth.

### **1.3 Problem Statement**

The progresses in information technology (IT) industry have supported organizations to increasingly depend on open innovation, in IT sector employee's innovation is key essential component for growth and development (Cui, Ye, Teo, & Li, 2015). To gain competitive advantage in information technology (IT) sector, innovation of employees plays remarkable role (Cui et al., 2012). Software program houses have been selected because the environment observed in the parameter depends totally on mixture of innovation and their ideas that set their work requirements. Giant companies such as Google, which has benchmarked them as a trend pays attention on innovation as their method for development. Google credit its remarkable accomplishments to adding teamwork sprit along with the function of psychological Capital as their top achievement component. Innovative work behavior is the vital facet of software houses due to the fact on the conceptual stage, whilst definite soft-ware program's functionality is considered first, expanded innovative work behavior is actually essential to layout and hyperlink all the needful modules and functions into one interconnected component , which is the software program. Pakistan is a growing country and era is evolving in Pakistan so organizations are thriving to benefit competitive advantage via outsourcing software development due to the fact it is the high-quality solution within the age of globalization and technological advances. The arena



economic forum, assessing the improvement of statistics and communication technology within the country ranked Pakistan a hundred and tenth amongst 139 other countries in the worldwide information technology record of 2016 (Table, 2016). However software program houses regularly function in complex project management, which is categorized by using complicated trouble-fixing beneath situations of ambiguity (Ahern et al., 2013), wherein information allocation turns into crucial for achievements of goals (Oshri et al., 2005). Due to this improved competition and diverse environment, employees of information technology (IT)/ software houses face many troubles like assembly the ever-growing needs with innovation.

This precious team of workers can maintain pace with the unexpectedly converting environment by way of providing innovative solutions to the issues for the betterment of the company (Abbass & Raja, 2015). Human beings are main resource in software businesses firms in Pakistan (Andersson, 2020). In addition, the low innovative work behaviors in software houses have intensified the need for authentic leadership, positive psychological capital and thriving so that workers can experience learning and vitality at their workplace. So as to continue progress and achieve advanced objectives, the top level management in the IT sector must understand the issues and try to encounter this problem with the authentic leadership to increase innovative work behavior at work place (Asrar-Ul-Haq & Kuchinke, 2016). Innovative work behavior encountered the presence of authentic leadership so that employees in their supervision gets cushion to be more innovative, as leadership here is centralized now so employees face issues in facing new technological aspects (Tallon & Pinsonneault 2011). IT sector of Pakistan is facing many issues, as there is lack facilities and expertise (Ali, Musawir, & Ali, 2018). Current study will emphasis on the role authentic leadership, psychological capital and thriving at work as key factor of enhancing Innovative work behavior within workforce in software houses. Psychological capital is a psychological condition of human mind that possess a positive perspective and it is consist of hope, optimism, resilience, and efficacy. Precisely, hope is basically an intellectual procedure determined thru feeling of attainment in achieving specific goals (Snyder, 1995), so presence of psychological capital will be positive and will give result in more innovation with in employees. If we see the dimensions of thriving when employees learn and grow then they produce more innovative results (Porath et al., 2012).

Therefore, there is need to examine this problem in Pakistani Software house. Further, it will help the software house management to know that how authentic leadership, positive

psychological capital and knowledge infrastructure capabilities influence their subordinate and in what way it impacts their innovative work behavior with the moderating consequence of Thriving at work.

#### **1.4 Research Objectives**

Strategic focus of this study is to have in-depth examination of variables understudy. Have in depth examination of the relationship between Innovative work behavior, Authentic Leadership, psychological capital and Thriving at work. Brief description of is below;

- To examine the impact of authentic leadership, psychological capital on Innovative work.
- To examine the change in Innovative work behavior with the influence of authentic leadership and how Thriving at work will moderate this relationship at in software houses in Pakistan.
- To examine the change in Innovative work behavior with the influence of psychological capital and how Thriving at work will moderate this relationship at in software houses in Pakistan.

#### **1.5 Research Questions**

Questions of this study are mentioned below in detail;

- Does authentic leadership have any impact on Innovative work behavior?
- Does psychological capital have tendency to influence on Innovative work behavior?
- How does thriving at work will moderate the relationship between of authentic leadership and Innovating work behaviors?
- How does thriving at work will moderate the relationship between of psychological capitals and Innovating work behaviors?

#### **1.6 Purpose of the Study**

Such as earlier several studies was conducted to investigate innovative work behavior, Authentic Leadership and psychological capital but very limited work has to be done on these variable together with the moderating effect of Thriving at work in IT industry of Pakistan. With the

assistance of former research, following research will concentrate on the significant association among independent, moderating and dependent variables. This study will analyze the direct relationship of under study variables, as to check an influence of Authentic Leadership and Psychological Capital on Innovative work Behavior and the moderating consequence of Thriving at work.

### **1.7 Significance of the Study**

Software program development is a developing industry in Pakistan that has the ability to extend greater inside the future. The global economic forum, assessing the improvement of information and communication technology over all worlds and ranked Pakistan 111th amongst a hundred and forty four nations within the worldwide information technology report of 2014. The authorities of Pakistan have attached remarkable significance to information technology, as part of its efforts to develop an "information age" inside the country. thru a attention at the high-tech advancement of information technology, the govt objective is to raise productiveness inside the community zone, enhance overall standard and criteria of IT structure in the state and utilize it as a controlling tool for the advancement of true governance control in widespread. The Pakistan Software Export Board (PSEB) is putting plenty of efforts, for the last a few years, in the direction of the betterment of software builders and specialists associated to software program houses. These observe will not only assist PSEB but also software program houses and project managers to recognize their work force.

The novelty of the examination of the study is centered with the ways that that is linked with outcomes of innovative work behavior. Current research considered as primary in illustrating innovative work behavior with predictor psychological capital, authentic-leadership and thriving at work. Result of this study targets to describe that the authentic leadership and psychological-capital as an essential factor of worker's innovative work behavior, accordingly request us for identification of elements which could guarantee innovative behavior with in the IT industry to bring effective outcomes with the moderating effect of thriving at work. This study will be beneficial for the managers and employees with in software houses, for the increasing the innovation at work place. This study will benefit the customers of software houses as optimistic change in the performance of employees at software houses will result in more beneficial for

their employees. Outcomes of this research will assist leaders and supervisors in creating an innovative culture in the organization with will result in more innovativeness and growth.

### **1.8 Scope of the Study**

Current investigation is focused on IT industry of Pakistan. This study has focused on the issues faced by employees in software house and trying to investigate employee's issues. Innovative work behavior, authentic leadership, psychological capital and thriving are the variables investigated in this study.

This study will be beneficial for software houses of Pakistan as well as the employees of the software houses. Findings of this study will assist the leaders / managers of software houses and they will have better work environment.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Social Cognitive Theory

Social cognitive theory was presented by Bandura in year 1986. This theory relies on learning, the theory is targeted on the perception that individuals acquire and learn through having observations about others people and their actions. These learned behaviors can be adopted from one individual's personality based upon idol ship; we can conclude that the role of authentic leaders plays a positive and significant role in influencing employees at place of work for increasing innovation. According to social psychologists the environment in which one grows up it contributes a lot to their behavior, and it's an essential part in human psychology (Bandura, 1977, 1997, 2001). Hence, the two expectations that individual's capability to adopt a specific behavior and the expected results that derives from that behavior, so this theory is linked to positive psychological capital in the environment at place of work. And employees feels accomplished and determined towards innovativeness in their work, when they have the back support of positive psychological capital (i-e hope, optimism, resilience and efficacy). According to Social cognitive theory person's knowledge attainment are dependent on the way he/she observes others individuals inside their social communications, proficiencies, interactions or media influences (Leong & Rasli , 2014 ). So the Social cognitive theory focuses on the innovation with is perfectly relate to the theoretical framework of the current research, which is focused on innovative work behaviors of employees .Social cognitive theory has recognized as supportive in understanding individual's perform what they do and what they don't (Pang and Cai, 2008). As social interactions boosts up learning, fresh ideas and expansion of those ideas also upgrade, that actually result in increase in innovation, for this purpose organizations must boost up additional internal communication between overall employees. So, through this social interaction will learn and grow (i-e thrive) and promote innovation at work place ( Riaz, XU, & Hussain ,2018). Social cognitive theory focuses on social and cognitive processes that influence human behavior; it can be beneficial for learning employees' actions at workplace and innovative work behavior in their performance. Social cognitive theory also used to study such employees issues (Wang & Lin, 2015). External social environment and social relations are the factors that generate and promote new ideas for innovation (Wang et al. 2015). Riaz, XU and

Hussain (2018) focused on social elements that are the key factors guidance in organizational practice. They tested and concluded that relative and social aspects are crucial for the appropriate application of thriving and innovative work behavior. By itself, this current study meant to study variables in social cognitive theory Perspective, which explains the link among relative effects on human behavior. These variables comprise authentic leadership, thriving at work, psychological capital and innovative work behavior. According to Bandura (2001, 2006), an individual intentionally work on things and make them happen through his or her actions. Agentic behavior is thus followed by intentions and consideration. As social- cognitive theory explains and focuses on the cognitive views consist of argentic actions, it is specifically appropriate to hypothetical support for examining innovative work behavior, as it also includes an intentional change to the external environment (Bandura, 1977, 1997, 2001). In one of the study Janssen (2004) highlighted in his study that innovative work behavior has the purposeful formation, framework, and carrying out of ideas, put emphasis on the affiliation among social cognitive theory and innovative work behavior. In the opinion by Bandura, Social- cognitive theory tells that a single individual may effectively form the actuality in the proper way how he or she really thinks. The author said that this theory is centered on one person's ability to organize and implement their idea and its execution (Bandura, 1995). It represents individual's perceived aptitude, his/her belief that he or she can execute the strategy required to accomplish the goal, and an optimistic behavior for the other individual's success (Hughes, Galbraith, & White, 2011). Riaz, Xu and Hussain (2018) Focused on building social relations, and allowing for incorporating individual innovative behavior.

Social cognitive theory, at workplace can be noticed from learning behavior of individuals and by the act of adoption of the other's behaviors. According to this theory individuals learn at their own will even when they are not being asked or forced to learn (Leong & Raslib, 2014). Multiple studies label a single individual as an mediator for change, improvement and adjustment in limitless way on the road to succeeding their self- analyzing, organizing, reflecting and regulating (Bandura, 2005). Leong and Raslib conducted a study to examine the employees innovative work behavior and linked social cognitive theory with individual outcomes for innovation (Leong & Raslib, 2013). Studies advocate that since employee's behavior could be determined by the anticipated results of the behavior, so innovative work behavior could be also determined by the expected outcomes, which is learned by others in social interactions (Yuan &

Woodman, 2010). Abstracting facets of positive psychological capital (Hope, optimism, efficacy and resilience) as resources that assists an individual, learning from their social environment (Avey, Luthans ,Smith, & Palmer, 2010).The Social Cognitive Theory concludes that a person's behavior is partially formed and also organized through the effects and inspirations of their social relations (social systems) and their cognition (their beliefs and their expectations) (Bandura,1989). Social cognitive theory is also related to psychological capital, as positive psychological resources also assists individuals in learning from their social environment and this learning result in increase in innovative work behavior. So we conclude that positive psychological in context of social cognitive theory shows a positive and significant impact on innovation at work place among employees. Hannah et al., (2011) focused on authentic leader and the employee's relationship and concluded that employees imitate their leader's authenticity and copy their actions and behaviors. Hence it has been suggested that an acceleration of the locus of authentic leadership to the employees is possible (Avolio & Walumbwa, 2014). Hannah et al., (2011) also found evidence for the change of authentic leader behavior affect team members which, in turn, anticipate employee's performance. Differences between current states and final goals affect the modification of cognitions and such behaviors that increase the possibility of goal accomplishment (Yeow & Martin, 2013). Henceforth authentic leadership at place of work guarantees innovativeness in employees at their work place. Hence we conclude that social cognitive theory relates to Innovative work behavior as this theory exhibits that we learn through our social interactions in our environment, so we can also relate it to authentic leadership as followers learns a lot from their leader in the working environment

As social interactions boosts up learning, fresh ideas and expansion of those ideas also upgrade, that actually result in increase in innovation, for this purpose organizations must boost up additional internal communication between overall employees. So, through this social interaction will learn and grow ( i-e thrive) and promote innovation at work place ( Riaz, XU & Hussain 2018). Walumbwa et al., (2018), analyzed human growth at work. Their study revealed that employees when interact in social climate they experience thriving at work which result in innovation at work place. Considerable proof indicates that it's far vital to discover the social conditions and organizational techniques that have an impact on man or woman behavior (Shanker et al., 2017). Consequently, drawing on the study through Madrid et al., (2014), we tend to anticipated that authentic leadership and psychological capital have significant impact on

innovative work behavior. Further, social interactions are exceptionally important as an input of innovative concepts and ideas and of their execution (Wang et al., 2015). social interactions also boosts up learning, innovative philosophies and enlargement of those ideas and it also upgrades that leads to individual's growth i-e thriving at work which result in increase in innovation at work place. Furthermore; within the current study, we postulated the moderating function of thriving at work will strengthens the relationship among authentic leadership, psychological capital and innovative work behavior.

## **2.2. Operational Definitions**

### **2.2.1. Innovative Work Behavior**

De Jong and Den Hartog, (2010) defined “Innovative work behavior includes creating new ideas as well as assist in the putting into practice of new ideas for improvement which results in growth performance”.

Innovative behavior at work is consists of any individual employee's aptitude to innovate and discover new ideas, products, techniques and working methods. It is based on creating new ideas for working more innovatively at work place.

### **2.2.2. Authentic leadership**

The one's ability of self-awareness, displaying openness and intelligibility regarding who they actually are as a person and constantly revealing and acting according to their personal beliefs, values, motives and opinions is known as authentic leadership (Walumbwa et al., 2008).

Authentic leadership is a broader term as authentic leaders can highlight their own flows and weaknesses first, reflect their core values through actions , list their strengths, control pressure and give others space to express themselves and listen to other ideas before making any decision. As their leadership influence others employees at work place, so they need to be more vigilant at their work place.

### **2.2.3. Psychological Capital**

It is an optimistic mindset of progress of a person. It consists of four positive psychological means, which are hope, optimism, efficacy, and resilience (Luthans, 2004).

Psychological capital makes an individual experience working with more positivity and hopefully to be more confident ,find solutions confidently, deals in work matters, be more energetic ,manage difficulties and encounter everything easily.

### **2.2.4. Thriving at work**



It is known as a mental ability where a personnel at their work place feels the opportunity of learning and vitality” (Spreitzer et al., 2005).

Thriving at work consist of two facets, vitality and learning. When one employee feels vital and energetic so he/she takes steps towards learning and developing.

## **2.3. Literature Review**

### **2.3.1. Innovative Work Behavior**

These days’ it’s hard for organizations to proceed and flourish as this era is unique and unpredictable business condition has made it difficult to keep going(De Jong, Parker, Wennekers, & Wu, 2011). In times like this, that allows you to achieve success, as a result companies are being more focused and imperative on innovation (Battistelli et al., 2014). In competitive environment, innovation is such a critical component for promoting technical innovativeness (De Jong, Parker, Wennekers, & Wu, 2011). It is a critical aspect for combining technical innovations and simulations of origin in competitive atmospheres (Wan, Williamson, & Yin, 2015). New products are being more useful and valuable by innovation, products or production strategies inside the organizational context (McKinley, Latham , & Braun, 2013). It’s been long established that creative potential and innovation ability of staff leads big corporations and small organizations to expand and prosper in the long term. (Lauser, 2010). Božic & Ozretic-Došen, (2015) stated that in small businesses, the enterprise proprietor generally, manages the business. So particular influential managers played a vital role through his/ her actions in leadership and authoritative behavior. The significance of managers’ role in assisting staff in their tasks’ increases innovative behavior has been proven in past research (Scott & Bruce, 1994). In a competitive organizational environment, innovation plays a pivotal role to secure the employee's future. (Chowhan, Pries, & Mann, 2016). In challenging organizational behavior, the innovative behavior of an employee or worker is an essential asset to get in the top (West & Farr, 1990). Innovation has no longer yet been universally described regardless of its significance in organizational literature (Kheng et al., 2013), despite the fact that creativity has numerous definition (Cummings & Oldham, 1997). Recognition of issues and application of ideas of thoughts is what innovative behavior regarded for (Scott & Bruce, 1994). When key components of employees' work behavior like create, encourages and introduces new concepts applied, innovation occurs innovative work (De Jong, Parker, Wennekers, & Wu, 2011). Studies have proven that innovative work behavior is of great importance and incredible noteworthiness in

working environments (Chowhan, Pries, & Mann, 2016). Roma et al. (2016) concluded that innovative work behavior may be taken into account as the specific job activity of the workers and is viewed in a diverse working environment.

This can allow a business to face and overcome challenges in a complicated background (Kheng et al., 2013). The achievement and sustainability of large organizations are largely relying on their innovation environment (Gawer & Cusumano, 2014). innovative work behavior is defined since the endeavors and behaviors applied through representatives that are coordinated on the creation, generating and applying ideas , goods, techniques or strategies aimed at dramatically and newly acquiring the related unit of adoption (West & Farr, 1989). Its consists of (a) the creation of ideas, (b) the promotion of ideas and (c) the recognition of ideas (Kheng et al., 2013). Idea composition is the process in which staff discovers difficulties and creates new and beneficial ideas to resolve issues in any field (De Spiegelare et al., 2014). Support and assistance from strong associates is sought concluded the promotion of created ideas within the idea promotion section (Hanif & Bukhari, 2015). The concept recognition section subsequently refers to the process in which newly created ideas are prototyped and applied in the form of a job position, a collection or the entire company (Gawer & Cusumano, 2014). It is significant to conclude that innovative work behavior is 'flexible actions' and does not therefore fall within the defined roles of the worker (Gawer & Cusumano, 2014). The invention method must be considered a discontinuous method in which persons can exercise any aggregate of duties at any time frame (Kataria et al., 2014). In reality, such actions are extra-role activities that can result from employee motivation intrinsic to them. (Ramamoorthy et al., 2005). If a worker is engaged in these innovative work behaviors, you can boost their job by creating innovative ideas and techniques (Shanker et al., 2017). This can allow them to do their jobs much better and contribute to a more effective overall output challenge (Aryee et al., 2012). Following their expectation that these behaviors will benefit their overall jobs, workers would be much more likely to be involved in the innovative work behavior (Nambisan et al., 2018). Even if an innovative worker helps them do their job more efficiently, this leads to a stronger overall performance job (Aryee et al., 2012). Yuan and Woodman (2010) Productive association between innovative work behavior and job success proved. As overall results of the partnership, Agarwal (2014) in addition confirmed that the workers involved placed a tremendous amount of time and effort into innovative work behavior for their businesses. With Anwar and Niode

(2017), Workers who exhibit greater degrees of involvement tend to resolve problems proactively and are promoted for exploring new evidence and ideas and implementing them to work. Moreover Kim, Park and Lee (2014) stated that workforces with extreme devotion to labor often others tend to be inspired to take an interest in their work. Therefore it is strongly advised that work involvement be tightly correlated to the innovative work behavior so that employees can effectively deal with the increasing pressure and difficult tasks linked with a changing organizational environment (Kataria et al., 2014).

In another study, Studying possibilities, implementing innovative ideas and behaviors, a new understanding that enhances the overall performance of the company in addition to people, are all taken into consideration as part of innovative work behavior. (De Spiegelaere et al., 2014). Additionally, another study has investigated it as a social mechanism between those who formulate innovative ideas and those who are prompted by those ideas (Kataria et al., 2014). This social mechanism creates an environment of acknowledgment, other than the acknowledgment of ideas, which in turn will benefit to ferment inventions (Jain, 2010). Taking into account that innovation could be a very interesting and significant subject of human life, it is studied through several disciplines which include law, economics, business enterprise, political science, sociology, education, anthropology, engineering, medicine, and psychology through the exceptional stances and concentrate (Kataria et al., 2014) . Innovation is hard to define by a variety of disciplines. Innovation is the action or procedure for innovating a new technique, idea and product according to the Oxford English Dictionary ( Muceldili, Turanc, & Erdilb, 2017). It really is a hard course even within management literature that describes innovation. Inside the literature innovation is conceived in a selection of alternatives. Therefore Innovativeness means embracing a fresh idea or behavior (Jimenez, 2011). Kim, Park and Lee (2014) said that Organizational innovation is defined because useful and beneficial new products or services are presented within the organizational context (Gumusluoglu, 2009). Anderson et al. (2004) said that, as innovation plays a major role in achieving organizational efficiency and long-term achievement and managing outside atmosphere turbulence, professors and experts are attempting to understand why and how innovation takes place. Five important elements, organizational factors, job traits, individual's personal characteristics, relationships at work with one's manager, organization or social elements, organizational factors, of the individual have affected innovation have affected innovation (West & Farr ,1989). Innovative work behavior means

producing and generating fresh innovative ideas not only involves creating ideas and also trying to implement those ideas (George & Zhou, 2001). Innovative work behavior is confirmed as vital to the survival of a company and to ensuring a competitive edge for companies (George & Zhou, 2001). Creativity is the big contributing factor to the development of organizational levels (Muceldili, Turanc, & Erdilb, 2017). Jain, 2010 Identified innovative work behavior as "products, models or strategies which fulfill situations: (1) they are authentic and fresh (2) they are undoubtedly applicable for an manager". Author well-defined innovativeness and stated that it is production of novel and useful applicable ideas and related methods and strategies applied at place of work (Nambisan et al., 2018) , Conversely, innovative concepts can really be transformed into innovative products as this industry or the marketplace are medium to the innovative concept itself (Nakamura & Csikszentmihalyi, 2002).

### **2.3.2. Authentic Leadership**

From the past decade, authentic leadership is one of the accelerating foundations of leadership theory. By creating an essential difference in the business by supporting employees, companies need and allow the authentic leaders to learn to cope with turbulent, brand new, and dynamically challenging work environment. (Gardner et al., 2005). Although the term authenticity has gained a popular interest in leadership, ethics, optimistic organizational behavior and scholarship intersection in education management literature, it's not really recent in philosophy and psychology (Muceldili, Turanc, & Erdilb, 2013). Authenticity derives from Greek philosophy, and has an important share in philosophical writings, referring to "thinking very true self" (Harter, 2002). Avolio and his colleagues Defined authenticity as accepting one 's self, understanding it and being true and genuine (Avalio, 2011). Authenticity is the fundamental collective factor in most of the true dimensions of leadership (Peterson et al., 2012). Authenticity has been described as the felt alignment among inner (Intellect, feelings, etc.) And outward shows such as work behaviors (Harter, 2002). A straightforward definition of authenticity may refer to a famous belief that leaders who are "true to themselves" or "absolute north" (George & Sims, 2007) Are much more powerful. However, these authenticity interpretations could also struggle to recognize the fact that authenticity is transmitted to others and that influence over all the expression of the true self is essential (Goffee & Jones, 2005). For an example, authentic people could further claim personal opinions that may be adverse (Ladkin & Spiller, 2013) or hinder organizationally. The assumption that self-referential authenticity

generates effective leaders is aligned with a long time frame of research proving that self-monitoring and management impact results in a more relevant achievement (Bedeian & Day, 2004). Harter, (2002) moreover, authenticity is typically viewed as a static rather than a dynamic construction. Wood et al. (2008) Authenticity theory and assessment identifies external effect identification as being contradictory to an authentic character. However, these notions of authenticity may also hinder personal growth and adaptation (Ibarra, 2015). Another aspect at Ibarra suggests that ' a concept of authenticity that is too inflexible might get in the way of successful leadership 'and limit leaders' capacity for change and growth. There may be more than oneself that an individual should "remain authentic to" as one evolves and improves, suggesting that it is a tough thing to remain "true to oneself." (Goffee & Jones, 2005; Ibarra, 2015). One more opinion of authenticity that addresses these issues was first mentioned by Kernis (2003) Another authenticity perspective that discusses these concerns were first described by Kernis in his theory of authentic functioning, which is now described as a transparent and non-protective way of communicating with oneself and others. (Leroy et al., 2015). Authentic leadership researchers later adapted this theory (Avolio & Gardner, 2005). Four subcomponents were considered to be part of a better managed type of standard authentic functioning, and particularly authentic leadership (Leroy et al., 2015). people who work more authentically are actually know themselves and their influence on others (self-awareness); they openly share facts and show their actual selves to others (relational transparency); they objectively examine applicable information while minimizing bias arising from ego-defensiveness earlier than making decisions (balanced processing); They are therefore guided by the application of key ethical values And coordinate their actions with all these (internalized ethical perspective) principles (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008).

Walumbwa et al. (2008) describes Authentic leadership is being truthful to yourself and displaying your opinions in authentic leadership. Authentic leadership viewed as a guiding model of conduct that draws on and strengthens both positive psychological abilities And a healthy moral culture, encouraging greater self-awareness, an internalized moral approach, a consistent managing of facts, and related honesty on the part of staff members, encouraging positive self-development” (Walumbwa et al., 2008). Authentic leadership, based primarily on the theory, consists of four key constructs which are adapted from the four authenticity factors of Kernis: balanced processing, self-awareness, relational integrity, internalized ethical attitude and

self-awareness. These four factors have been studied and scientific evidence suggests that the relationships in the four factors constitute a core authentic leadership aspect. (Walumbwa et al., 2011). Self-awareness is a vital element and starting line within genuine leadership development. Key to genuine leadership is to know you and to be true to yourself. (May et al., 2003). Authentic leaders count on their self-awareness and honesty in favor of their followers (Ilies, Morgeson, & Nahrgang, 2005). Self-awareness contains references to a leader's trait of understanding of its strengths, weaknesses as well as how the leader impacts everyone. Self-awareness is a complicated process where a person re-examines his / her weaknesses and strengths repeatedly. For all models of leadership, moral/ethical aspect has a critical part in the development of genuine leadership. In the advanced stage of ethical growth social psychologists describe and execute authenticity (Walumbwa et al., 2008). Authentic leaders call out and concern towards moral issues and are motivated, including in reaction to industry, socio - organizational challenges, by ethical values and standards (Peus, 2012). The other aspect of authentic leadership is relational clarity which comprises the actual display of one. Authentic leadership is defined through 'a series of clear and moral leadership behavior, which feel worthy in exchanging the information needs to produce choices by receiving advice from those who follow' (Avolio et al., 2009). This reflects honesty and truthfulness in one's close relations (Gardner, 2005). Balanced processing is the very last aspect of authentic leadership. Balanced processing displays honest decision making procedure. Through this practice, all details are critically evaluated without the lack of the approach of refusal. Thus, authentic leadership has found out being a "stand-alone" idea. Authentic leadership studies are described by a detailed assessment of leaders' behavior and attitudes, in addition to its impact in studies on members and organizations (Cianci, Hannah, Roberts, & Tsakumis, 2014). The authentic definition of leadership means that if leaders are authentic or sincere in their principles and abilities, they empower everyone to do the same that leads to favorable workplace culture and optimal worker performance (Walumbwa et al., 2008). The authentic leader helps to build trust and positive work environment through four elements: balanced processing, internalized moral views, relational transparency and self-awareness (Walumbwa et al., 2008). Leaders who're authentic work using 'balanced processing' by means of having Leaders who use "balanced processing" to function authentically by getting enough feedback and points of view from others when making critical decisions. They promote a level of flexibility towards everyone (relational transparency)

that offers an opportunity to step forward with their ideas, beliefs and problems. The authentic leader must set and practices a sense of moral and professional ethics (internalized ethical perspective) and ultimately demonstrates self-consciousness by knowing not only their own abilities, limitations and boundaries but also how they impact people. Authentic leaders who viewed certain acts as inter-expert cooperation are aimed at creating credibility and honor cultures and aspire to a safe and healthy work environment (Wong & Cummings 2009). authentic leadership analyses are categorized by a full examination of leaders 'behaviors and characteristics in addition to its impact focusing on followers and organizations' outcomes. (Cianci, Hannah, Roberts, & Tsakumis, 2014). Leader integrity is related to authentic leadership (Leroy, Palanski, & Simons, 2012) and the identity, loyalty and value of the association with the leader (Gardner, Coglisier, Davis, & Dickens, 2011). Gilla, Gardnerb , Claeysc and Vangronsveldt (2018) stated that authentic leadership identifies the bond between both leader and the others in the company, and the approach of effect in leadership form. Challenges conventional leadership views as a top-down influence methodology where its followers coordinate with and implement the leader's ambition is a key aspect of authentic leadership (Gardner et al., 2005).

### **2.3.3 Psychological capital**

Psychological capital represents one's' optimistic mental state (Avolio, et al., 2007). Every hypothesis-building and previous study about, motivation, resilience, optimism and efficiency show how these specific strengths can all be improved (Luthans, Youssef, & Avolio, 2007). Previous studies have found that commonality in between four dimensions enables for the consideration of psychological capital as a central construction (Paterson, Luthans, & Jeung, 2014). Luthans et al. (2007) Identifies psychological capital as a positive psychological state consisting of optimism, resilience, efficacy, and personal resources of hope. Williams, Kern and Waters (2016) Define psychological capital as a 'useful resource bank' allowing for effective responses to struggles, constructing relatively positive results and achieving good well-being. Certainly, studies have clearly found the benefits to the people who have or have progressed their psychological capital in numerous aspects of life, such as relationships, work and physical well-being (Lyubomirsky, Sheldon & Schkade, 2005). Psychological capital also has been identified as a particularly beneficial tool in the working place (Paterson, Luthans, & Jeung, 2014). Hsu, Wang, Chen and Dahlgard-Park (2014) Claim that the strong awareness of organization

equipped with advanced psychological capital inspires the workers to show more effective commitment for business goals, have higher success of a project, and remain cautiously optimistic while struggling with shortcomings. Williams, Kern and Waters (2015) Indicated how psychological capital became a crucial factor at the workplace and this connection stayed strong with times (Williams, Kern & Waters, 2017). Psychological capital has also been empirically linked to most of the other relevant results of workers (Raja, Darr, & Bouckenooghe, 2014). Psychological capital plays an important role in impacting the action of an employee at the workspace effectively (Lea, Strauss, Somech, Haslam & Dussert, 2020).

In addition, hope refers to the mental practice driven by a sense of accomplishing people's strategic goals (Snyder, 1995). Efficacy relates to self-assurance in response with one's own exclusive belief of gaining the expertise to complete a task efficiently (Bandura, 1997). Resilience means positive adaptation in the case of significant adversity (Masten & Reed, 2002). Basically, optimism refers to an optimistic belief that a person's aspirations or objectives will be fulfilled in the future (Peterson, 2000). Research indicates that the constructive psychological factors of resilience, hope, motivation and efficacy are capable of triggering creation within the employee (Abbas & Raja, 2015). Even such facilities no longer serve under solitary confinement. Instead, they bring social aid across an internal common approach (Magaletta & Oliver, 1999); therefore both should be jointly investigated (Abbas et al., 2014). Empirical research further confirmed the notion that the study of psychological capital as a vital part of projects work results greater than most of its components (Sweetman et al., 2011). Positive psychological capital, as described above, is characterized by resilience, optimism, presence of hope and efficacy. Positive psychological capital comprises the intensity of the motivation to do more creatively and also the way of achieving an objective by improving creative job development of different options (Luthans & Youssef., 2007). To this personal characteristic (Luthans, Avolio et al., 2007) there are four basic components: Self-efficacy (individual self-assurance in coordinating their efforts to obtain desired results appropriately), Hope (individual motivation and approaches to do their duties and responsibilities), Optimism (individual expectation and positive comparison for big results) and resilience (possibility for people to rebound from problems or uncertainties and progress to changes and achievement) (Newman et al., 2014). Portraying the positive psychological force, all four facets of psychological capital were individually motivated in previous studies to achieve expected results for individuals (Rego,



Sousa, Marques, & Cunha, 2014). Recent work has suggested that psychological capital, as a whole, has a very profound influence on the job engagement and efficiency of employee work commitment and performance (Newman et al., 2014).

#### **2.3.4. Thriving at work**

The 'thriving at work' concept has been described as one of the outcomes of the managerial training (Raza et al., 2018), and has attracted significance in workplace behaviors, effective organizational distinction and outstanding organizational conduct (Abid & Ahmed, 2016).

Thriving at work is defined as 'the psychological state. 'Where people feel empowered and awareness alike (Spreitzer et al., 2005; Porath et al., 2012) once people can experience thriving at work they feel engage in working , Theoretically, learning and vitality are the two dimensions of thriving at work (Spreitzer, Porath & Gibson, 2012). Currently Abid and Ahmed (2016) have identified 3 operationally and conceptually, broader components of thriving at work: cognitive, behavioral, and affective. The learning dimension contains fulfillment and implementation of recent competencies and facts (Elliott & Dweck, 1988), while vitality as stated by Nix, Ryan, Manly and Deci (1999), and are all about positive feelings and enthusiastic behavior. Porath, Spreitzer, Gibosn and Garnett (2012) have investigated both learning and vitality one after the other. Spreitzer et al. (2005) identify the main component of thriving resilience as a mindset favorable to grow stronger and feel alive. The second dimension, learning, requires the experience of individuals who acquire expertise and knowledge and who are willing to practice it. (Spreitzer et al., 2005). Vitality implies a sense of motivation, aliveness and willingness to work (Mushtaq, Abid, Sarwar, & Ahmed, 2017) while learning refers to obtaining and making use of expertise competencies to develop personal capabilities (Carver, 1998). Workers support personnel development and work improvement, and knowledge assets are viewed as a significant element (Schaufeli et al., 2009). A thriving dimension of cognitive (learning) and affective (vitality) captivates self-improvement (Porath et al., 2012). Thriving is a positive psychological state of development that animates individuals and makes them more alive (Carver, 1998). When one is unlikely to feel lively at any pace not to learn or if one is learning but does not feel lively at work now, there would be no thriving at that point (Raza et al., 2017). Thriving can only work when both learning and productivity are present at the same time (Beattie et al., 2014). As Porath et al., (2012) Advise that thriving is a common thought of resilience as well as learning. Thriving is factored as a relational experience that enables employees to evaluate their tasks (i.e.

what they do, how they do, and etc) and allows them to evolve. (Spreitzer et al., 2005). Though people grow positively, in reality, they improve their work acceptable to the environment (Kolb, 1984). Thriving gives a person motivation to do the work in a manner that helps their personal development (Spreitzer et al., 2005). Central idea of thriving at work is there has to be large amounts of vitality and learning for employees to thrive at the workspace. Porath et al. (2012) Note that 'considering the fact that each factor can indicate some certain improvement towards personal development at the workplace, it is only in conjunction that they impact each other to shape the concept of thriving. There could be three explanations for the correlation that triggers thriving inventive employee behavior. Firstly, workers are able to determine issues and generate fresh ideas so that they can learn and grow themselves with in workspace. (Amabile, 1998). Second, although the employee feels vibrant at work, they are increasing more productive (vibrant) and enhancing productivity (Carmeli and Spreitzer, 2009). Finally, these individuals tend to come up with innovative approaches to be used and developed in relation to similar difficulties faced by companies or organizations (Kanter, 1988).The findings of Raza et al. (2017) depict that managerial training significantly and optimistically influences thriving at work, because it presents a possibility of learning, triggers optimism, and teaches the workforce to focus on positivity and being effective. Thriving employees assist others and resolve their problems that are beyond their formal responsibilities (Raza & Ahmed, 2020). In recent years the notion of thriving at work has gained considerable interest in positive organizational scholarship (Paterson, Luthans, & Jeung, 2014; Spreitzer & Porath, 2012). Totally focused on hedonic and eudemonic perspectives of psychological activity and development (cf. Ryan & Deci, 2001), Spreitzer et al. (2005) Highlight that only the collective experience of thriving cognitive (learning) and affective (vitality) aspects give a person a sense of achievement in their self-growth. In positive organizational learning, the conviction that learning and vitality interactions are simultaneously crucial aspects of success at work separates productivity from other principles. As an example, it flourishes and thrives (Diener et al., 2010) Share the likeness, as each involves meaningful personal functioning conditions. However flourishing demands just the social and psychological well-being experience and will not depend on learning experiences (Spreitzer et al., 2005). Thriving at work bring benefits, not only for the worker but also for the effectiveness of organizations (Paterson et al., 2014). In addition to these beneficial consequences for people, prosperity in the workforce leads to greater proactive behavior and

improved job performance (Paterson et al., 2014). Higher levels of innovative work behavior are some other positive outcomes of a thriving workforce for organizations (Carmeli & Spreitzer, 2009) and developed invention (Wallace, Butts, Johnson, Stevens, & Smith, 2016). Using their socially integrated concept of thriving at work, Spreitzer et al. (2005) further highlighted the importance of contextual roles and capabilities as a context to thriving at work in such a diary study for five business days, Niessen et al. (2012) exhibited that the internal resources seen in the morning undoubtedly influence the learning and imperativeness of the employees at the end of the working day by means of more agentic work behaviors.. The diary study by Niessen et al. (2012) further established that the element of flourishing — learning and vitality — has considerable variation in the day and that available resources will certainly affect thriving at work, even at very short times, including the day phase. (Prem et al., 2017).

#### **2.4.1 Authentic Leadership and Innovative Work Behavior**

Amendments in primary rules, technological enhancements and also massive global competitive pressure have made it extremely difficult for companies to compete in the current business world efficiently. Subsequently, ongoing innovation in business-oriented markets is currently a major factor for the organization's success. As a result, companies are intensely interested in understanding all those factors which strengthen their workers' innovative work behavior (Agarwal, 2014). At present, The Leadership's impact on innovation has been of significance. For their research, Cummings and O'Connell (1978) Recognize that leadership is an essential factor for innovation in a company. A range of empirical work has supported the effective findings of leadership styles (participatory and collaborative management styles) as well as the great quality connection between a leader and innovation followers (Scoot et al., 2003). Authentic leaders may be impacting creativity. Instead of typical leadership styles they will encourage creativity. Authentic leaders increase creativity through building self-confidence, inspiring anticipation, increasing morale and strengthening resilience. In addition, sincere management can also have a great role to play in improving creativity through an alliance with followers. (Yuan& Woodman, 2010). Scholars have researched innovative work behavior histories at organizational, the working group and personal levels for years (Zlatanović & Mulej, 2015; Franco & Haase, 2016). Such studies have stated leadership is strongly correlated to the innovative work behavior. Leadership plays an esteemed role in the innovative work behavior's staff, including some of these predictors. As an instance Gerybadze, Hommel, Reiners, and

Thomaschewski, (2010), believed that authentic leaders 'role as positive actions is far more crucial than other explanatory factors for personnel' innovative work behavior. Researchers have subsequently studied the issue of why authentic leadership support provides one such vital position for innovative work behavior and also have further evaluated that certain assistance is essential because of the sheer complexity of innovative work behavior (Hannemann Weber, & Kratzer, 2012). This shows that workers oppose the power structure when they differ with superiors; thus employees have required a significant level of autonomy to foster innovative work behavior (Sharifirad & Ataei, 2012). Autonomy and ability to share one's ideas expand as workers being encouraged by authentic leadership (Foss, Woll, & Moilanen, 2013). Various studies have already shown that authentic leadership plays a significant role in growing the innovative work behavior of workers (Javed, Bashir, Rawwas, & Arjoon, 2016). The high-quality bond with workers is indeed one of the specific methods through which authentic leaders support the innovative work behavior workers. Leaders give encouragement to their team with demanding tasks in a powerful and high-quality, strictly focused partnership. Address the contribution of individuals in evolving and risky situations, and to provide the appropriate work-related support that positive results in the innovative work behavior of employees (Resick, Hargis, Shao, & dust, 2013). Authentic leaders allow workers to guarantee the opinion of employees in decision-making and display their commitment to employees for each phase of the tasks (Aryee, Walumbwa, Zhou, & Hartnell, 2012); therefore, they help employees create fresh and novel products (Tu & Lu, 2013). The primary level of innovative work behavior is to generate new ideas (Resick, Hargis, Shao, & dust, 2013). Authentic leaders ensure workers have access to essential, tangible and intangible organizational resources (Hollander, 2009), that helps employees to keep developing and introducing innovative ideas (Afsar, Badir, & Saeed, 2014). Furthermore, authentic leadership really does seem to shape the innovative work behavior of workers. Leadership is taken into account as a major agent of change in enterprises and seems to be a strong aspect of the organizational working environment. Consequently, when leaders exhibit trying to support behavior for innovative ideas, workers see it as organizational encouragement to improve and strengthen their innovative work behavior (Schatzel, Moneta, & Kramer, 2004). Leaders who exhibit the qualities of authentic leadership encourage equal input and productivity for all workers (Hollander, 2012). Thus, in a high-quality, primarily focused engagement with the leader (e.g., honest leadership), workers feel a realistic framework of

compensation that encourages them to achieve work demands like innovative work behavior (Aryee, Walumbwa, Zhou, & Hartnell, 2012).

Leaders who display this conduct, observe, encourage and guide the employees (Vaill, 1996), And inspire them to serve for innovative work behavior ( Altunoğlu & Gürel, 2015). Employees are experiencing the connectivity attribute of authentic leadership in the high-quality interaction with authentic leaders. Authentic leaders with that attribute, give incentives for workers to decide their own job activities. And they are strongly motivated by trustworthy leaders (De Spiegelaere, Gyes, Witte, Niesen, & Hootegem, 2014). Authentic leaders deliver employees with comfort and support, boost integrity, and by their actions, showing that they're trustworthy people who are making an objective judgment (Hollander, 2012). This attitude inspires workers to demonstrate innovative work behavior (Tu & Lu, 2013; Choi, Tran, & Park, 2015). Another of the specific ways in which authentic leaders instruct workers is that these leaders take full responsibility for eventual repercussions (Hollander, 2012) and while new ideas cause failure in the overall innovation cycle, they protect workers by taking responsibility for the failure. In the presence of honest representatives, therefore, workers feel confident in taking risks relevant to innovative work behavior ( Javed et al., 2017). Leadership impacts innovative work behavior through the level of man or woman, components such as self-motivation and cognitive power (Afsar, Badir, & Bin Saeed, 2014). First, authentic leaders identify and encourage workers (Hollander, 2012) What further motivated them to demonstrate innovative work behavior (Aryee et al., 2012;). second, In a absolute affiliation with authentic leaders, workers sense the assistance from authentic leader at workplace such as time, space and political support for information related to acceptability and innovation that leads to new ideas being expanded, promoted and enforced. (, Tran, & Park, 2015). Lastly, authentic leaders advance positive feelings and emotions for the employees (Wang, Fang, Qureshi, & Janssen, 2015) which inspire them to engage in their innovative work (Yeh-Yun Lin & Liu, 2012). Authentic leadership is directly linked to the integrity of leaders (Leroy, Palanski, & Simons, 2012) and the recognition, faith and high-quality attachment to the leader (Piansoongnern, 2016). In a meta-analysis of the predictors of organization's progress, Hammond et al. (2011) Noticed out is that immediate supervisors are worthy of encouraging subordinate innovation. In alignment with the ideology of authentic leadership, authentic leaders will encourage innovation by motivating their followers to be bolder and also more innovative (Avolio, Gardner, Walumbwa, Luthans & May, 2004).

Excessive transparency in relation enables managers to exhibit help and support openly and expresses admiration of the abilities of subordinates and a desire for them to perform properly (Zhou, Ma, Cheng & Xia, 2014) accordingly; these leaders build emotional trust in their workers, who will then be more eager to use their ideas to discover innovative ways to solve problems. In addition, authentic leaders are keen to encourage diversity of ideas and views amongst their followers, as they are extremely receptive of complexity and open to new experiences (Avolio, Gardner, Walumbwa, Luthans & May, 2004). Employees will, therefore, encounter more freedom to question existing styles in the workplace and will find the leader as a reliable source of feedback and observations over time (Hammond, Neff, Farr, Schwall, & Zhao, 2011). Besides that, authentic leaders tend to be more self-assured and not reluctant to take chances and challenge themselves (Mumford, Scott, Gaddis, & strange, 2002). They can even be thought to enhance the innovative behavior of the employees by modeling of innovative behavior and to establish a structure that promotes original ideas (Avolio et al., 2004). Study has certainly presented proof for the connection between authentic leadership and innovation. Zhou and colleagues (2014) Investigated the correlation between authentic leadership and employee creativity, taking into consideration the mediating role of the positive attitude of the employees, these study found that leaders who are considered as more authentic are incapable of evoking significant competitiveness (enthusiasm and courage), and that in turn may contribute to creative ideas being introduced at work. Müceldili and colleagues (2013) showed a positive relation among authentic leadership and worker innovative behavior, which was mediated through worker innovation. Other research presented indirect proof, displaying that perceived authentic leadership was associated with worker creativity (Semedo, Coelho, & Semed, 2016; Rego, Sousa, Marque, & Cunha, 2012) or creative atmosphere management and team transfer of awareness (Edú-valsania, Moriano, & Molero, 2016). Study has also proved the mediation of an enhanced collaboration between authentic management and worker innovation through worker psychological sources and behaviors at work (Hammond, Neff, Farr, Schwall, & Zhao, 2011). Some study has not acknowledged the multidimensional market form, which is why these observations suggest additional validation of the use of a multi-level strategy because multi-level and single-level relations do not actually relate now. (Kozlowski & Klein, 2000). Authentic leadership is not always examined smoothly. Earlier studies have said that there is a disparity in how authentic leaders see themselves and how their subordinates are viewed (Azanza,

Gorgievski, Morian, & Molero, 2013). This observation gives a fascinating conundrum, as it opposes the concept of authenticity, which posits that self-recognition, knowing one's 'true self' and performing accordingly will be naturally conveyed to followers who will view the leader as authentic (Northhouse, 2012;). additionally, Managers 'circumstances are usually not easy to observe by observers, but "on a realistic level, followers' understandings of a leader's authenticity are just as crucial to keep in mind as are the leader's actual thoughts and actions" (Pittinsky & Tyson, 2005). The multilevel findings proves in line with the by Cerne et al. (2013) Confirmed that perceived authentic leadership had a significant effect on worker creativity and collective performance, while the self-assigned authentic leadership of the team members did not show these performances. The findings showed that authentic leadership exhibited honestly to others, rather than self-perceived authentic leadership by members is much more likely to lead to excellent outcomes (Cerne, Jaklić, & Škerlava, 2013). Following that logic, evaluations of leadership authenticity given by the employees were considered a very credible source of knowledge, especially when such observations are based on cross-subjective, indicating that they are mainly focused on feedback by more than one individual. Moreover, assessing the innovative actions of workers is not simple and self-assessment has been embraced as an interesting idea (Dul, Ceylan & Jaspers, 2011). Innovative self-ranked attitude of workers was considered to be significantly related with the rankings of their supervisor (Janssen, 2000; Janssen, 2001) and with rational requirements for disclosures of the invention (Scott & Bruce, 1994). Several other various studies, however, decided to focus on how different leadership styles actually impact innovative work behavior. (Tsai & Tseng, 2010). As a matter of fact and time, leaders play a significant role in defining the company work culture; thus, numerous researchers have highlighted that leaders and executives have intensified the degree of responsibility to benefit their workers and, in turn, foster the instruction of human resources in their businesses (Noor & Dzul kifli, 2013). Although they have an effect on different leadership styles on innovative work behavior in the past, there may be little or no connection in previous studies between relational leadership and innovative work behavior that is a new leadership phenomenon (Lin & Liang, 2009). Authentic Leadership optimistically influences employees innovative work behavior (Walumbwa et al., 2008). Critical factors that determine employee Innovative work behavior are authentic leader's honesty, Exchanging and encouraging its workers (Walumbwa et al., 2008). Authentic leadership generates psychological support and psychological security that enhances

employees' innovative work behavior. (Rego et al., 2012). To be more specific, authentic leadership is obtained by studying accurately, keeping the bar high on standards of ethical conducting and encouraging transparency whilst involving with followers. It is by these qualities that authentic leaders earn the trust and respect of their employees, that in due time causes their followers to work more innovatively with the ease of having increased psychological support and safety. (Rego et al., 2012). Cerne et al. (2013) concluded and said authentic leadership optimistically influences staff innovative work behavior, directly and indirectly. Leaders can affect the overall well-being of their followers by being Authentic, efficiently aware of a follower's need for Psychological Empowerment (Sandhu, Dastgeer & Haq, 2019). Past researches have proven the influence of Authentic-Leadership on moral courage and employees' behavior, indicating that variables such as empowerment and creativity are highly influenced. Authentic Leaders may influence moral courage and behavior in two ways. Role model and social learning are two variables associated with the four extents of Authentic Leadership, indicating that the process of modeling a precursor for moral courage (Hannah, Avolio, & Walumbwa, 2011). Additionally, leaders who use an authentic leadership approach find their employees more eager to discover multiple methods for resolving issues and facing risks as they feel the need to perform well for their leaders (Avolio & Gardner, 2005).

#### **2.4.2. Psychological capital And Innovative Work Behavior**

Psychological capital is optimistically related to innovation (Huang & Luthans, 2015). Rego et al. (2012) said that positive psychological capital performs effective role in forming innovation at work. In particular, Luthans et al. (2006) concluded that self-efficacious human beings have the potential to take advantage of sources for achieving positive objectives, and demanding situations that are possibly to encourage these people to create innovative philosophies (Sweetman et al., 2011). Rego et al. (2012) said that workers that are hopeful will strive unusual strategies to track innovative objectives and involve towards innovative endeavors. While going through problems, constructive human beings have a tendency to take benefit of opportunities while having experience of optimistic feelings (Luthans, Avolio, et al., 2007). Eventually, hardships are unavoidable in innovation strategies, however resilience guarantees people' psychological security to overcome issues and hardships at place of work (Luthans, Luthans, & Luthans, 2004). The fundamental idea of psychological capital is optimistically associated with self-testified worker innovation (Rego et al., 2012) and employees experience innovation at



work area (Sweetman et al., 2011). Even though the existing works has verified a significant association among psychological capital and employee innovativeness (Sweetman et al., 2011).

### 1: Hope

Snyder,( 2002) concluded that In pursuit of business objectives, human beings with hope have a tendency to take risks and search for more successful ways while the other ways are closed. while people with hope ensure no longer achieve objectives, but use ways to enhance objectives chase procedures and techniques, accordingly become lively and vulnerable for searching innovative methods for overcoming limitations (Rego et al., 2009). Shalley & Gilson, (2004) defined that people with hope experience business chase their goals, being essentially inspired to searching out innovative methods to strengthen their “organizational growth” (Oldham & Cummings, 1997). Hence, hope feeds innovation (Rego et al., 2009). Hope is a term that exhibits the required actions anticipated that should be followed for accomplishing the ultimate goals. Theory related to hope says that it is a stimulating condition of a person’s attitude which is dependent on the successful experiences and decisions made in past, that moved in the direction of organizational goals (Snyder et al., 1991). Snyder et al. (1991) in another study stated that, when workforce is filled with hope, it generates a positive attitude in then and they tend to take more risks and find back to back strategies in order to pursuit their targets. Hope is such an element that is interrelated to the future and this inspiration leads people towards innovation (Choi, 2004). Tierney and Farmer, (2004) said that Hope gives an individual the strength to trust in his competencies and proficiencies and face hardship to have anticipated end results , hence in this manner individuals rely themselves and innovative freely. Future-focused employees don’t panic in failing or facing the delay as they care about the end results, so they find back to back alternatives to attain their end results (Zimbardo & Boyd, 2008). Hopeful people experience emotional safety”, and they become fully focused on their objectives (Prabhu, Sutton, & Sauser, 2008). Goal attainment excites hopeful people, they intrinsically finds methods towards innovation, and utilize all their strength towards innovation (Cummings & Oldham, 1997). While facing failures, people with hope don’t despair, learn from their experience and improves their techniques and strategies to find other innovative solutions to accomplish their goals (Rego & Wilson, 2012).

### 2: Self-efficacy

Stajkovic and Luthans (1998) defined efficacy as, Self-efficacious individuals always have faith in their personal capabilities to activate the inspiration, intellectual resources, and actions required to effectively accomplish a particular mission inside a specified perspective. As per Bandura, (1997) confidence is individual's capability to inspire a specific course of action, it is known as self-assurance or self- efficacy. Self-efficacy is a term that is concentrated on factors that stimulates intrinsic motivation for the determination towards goal attainment and the energy needed to face adversity, emotional stability and resilience to in respond to failures (Bandura, 1997). This combination of challenging objectives, motivational strength, and perseverance motivates employees to bring new and innovative ideas for achieving goals (Prabhu, Sutton, & Sauser, 2008). Self-assurance is a productive function so Bandura (1997) concluded that self-assurance is crucial for innovative work behavior. Prior studies proven that there is an optimistic and significant affiliation among innovation and among self-efficacy (Prabhu, Sutton, & Sauser, 2008). Luthans and Youssef, (2004) stated that individuals who are risk takers and facing tough tasks excites them, put their efforts and all resources to achieve the organizational goals , and find solutions to the problems in attainment of those goals. It confirms that employees that trusts their competencies and expertise approach innovative productivity (Tierney & Farmer, 2002). Self-confident person will take free steps towards innovation and creativity relying on their self (Rego & Wilson, 2012).Bandura (1997) emphasized in efficacy and concluded that self-efficacy is productive capability that is an essential factor to innovation. Different researches have also proved a significant relationship amid efficacy and innovative work behavior.

### 3: Resilience

People with resilience are able to deal or to recover, direct and have interaction to attain knowledge, better comradeships and eventually to get the answer of life . Numerous studies proved that resilience is positively associated to creativity and innovation (Anthony & Cohler, 1987). Luthans, Youssef and Avolio (2007) defined resilience as “People with resilience are capable “to overwhelmed, bounce back and accomplish to chase innovative proficiency and aptitudes, good affiliations with people around to determine connotation in life”. Past literature reveals that innovation is linked to innovation (Helson, 1999). Tugade, Fredrickson and Barrett (2004) exhibited that resilient workforces is passionate and make reformed strategies to lifespan, they welcome new experiences , and create in circumstances to bring innovation at work (Youssef & Luthans, 2007). Tugade et al. (2004) stated that employees with resilience find

alternative methods to perform a task in contrast to issues and pit falls, they hunt the opportunity. They are extraordinarily capable to go through the rough situations with controlled emotions and they have stable mindset that controls their feelings in a diverse competitive environment (Rego & Wilson, 2012). Past studies tell that optimistic feelings are interrelated to innovation and resilient workers are more innovative as compared to others (Fredrickson, 2001). Different authors has also concluded that resilient people are more innovative and produce more innovative results in achieving organizational goals ( Philippe, Lecours, & Beaulieu-Pelletier, 2009).

#### 4: Optimism

Optimistic people take assistances for fortunate events of their lives, by giving strength to their morale and self-confidence which eventually result in innovativeness among them ( Lyubomirsky, Tkach, & DiMatteo, 2006). Goldsmith and Matherly (2000) stated that Optimistic individuals separate their life and work from negativities which result in a stable and positive mind set with no anxiety, despair, self-blame and depression, so it leads optimists towards tensions free attitude , through which they face challenges with a positive attitude and with a exegetic outlook and deal with issues optimistically and find innovative solutions for problems (Youssef & Luthans, 2007). Fredrickson (2001) stated that optimists personnel encounter the opportunities with positive attitude and bring more innovative results. Lyubomirsky, Tkach and DiMatteo (2006) said that optimist praises the affirmative events in their lives that upsurge their self-esteem that eventually boosts the innovative behavior among result they are from negative feelings and depression and are of sound psychological state that makes them concentrate on their work with positive attitude and increase their innovation at work. Optimist people less likely to give up on situations easily in fact they demonstrate innovative perspective in such situations (Prabhu, Sutton, & Sauser, 2008). These employees with optimistic approach are more likely to survive in tough circumstances & find substitute options to bring innovation at their place of work (Fredrickson, 2001).

Psychological capital As mentioned overhead, empirical reasons permit thinking about resilience, self-efficacy, hope, and optimism as essential aspects of a fundamental psychological capital assemble, in preference to focusing on any one individual specific capabilities such as innovative work behaviors (Luthans, Avolio, Avey, & Norman, 2007). All the components of psychological capital are constructive in nature and employees gets a strength to work gracefully

with more innovative behavior. Such as resilient employees bounce back to work after failures and seek innovative solutions towards their failure. Zhou and Hoever (2014) stated that Optimistic workers maintain their self-efficacy together after understanding that an innovative behavior is compulsory for achieving organizational goals. Self-efficacious Optimistic and hopeful, individuals are doubtlessly greater resilient to hardship (Bandura, 1997) . If a self-efficacious worker is innovative due to the fact he/she accepts considerable challenges and use innovative approach to acquire aims, one of these tendency is higher if he/she additionally has high hope (Luthans, Avolio, Avey, & Norman, 2007). Employees takes demanding situations as challenges and take steps to obtain goals, on the other hand find alternate methods and innovative ways to overcome these issues, and finally face such difficulties by following more than one and innovative solution (Shalley et al., 2009; Zhou). Luthans, Avolio, Avey and Norman (2007) concluded that “individuals that have ranges of psychological capital are also competent performers due to the wide variety with high positive psychological concepts demonstrated through their motivation, cognitions and in their behavior, so these employees will display hope, or resilience, or optimism, or self-efficacy in such scenario”. Particularly, studies demonstrate that positive psychological capital enhances the relation among employees and innovative work behavior (Hirst, & Shipton, 2012). All four dimensions of psychological capital are favorable to innovation (Tett & Burnett, 2003), however psychological capital is significantly allied with innovative work behavior of employees (Zhou & Hoever, 2014).

#### **2.3.4. Moderating role of Thriving at work, Authentic Leadership, Psychological Capital and innovative work behavior**

Innovative behavior in organizational literature is known as a significant factor (Kheng et al., 2013), even though many various descriptions of innovation be existent. Some definitions are exceptional whereas others are too broad and wide (Cummings & Oldham, 1997). Innovative behavior initiates with identification of issues and their solutions, and presentation of ideas, that maybe old, adopted or may new (Scott & Bruce, 1994), on the other hand thriving at place of work may add motivation progressive work behavior (Carmeli & Spreitzer, 2009). Thriving at place of work combination of vitality and learning and it is considered as an essential factor in strengthens innovativeness at place of work (Hülshager et al., 2009). Nix et al. (1999) in their study stated that vitality gives the exposure of enthusiasm, passion and liveliness at place of work. And Edmondson (1999) described learning, he stated that learning is knowhow of

everything or available information that stimulates self-self-assurance. Wallace et al. (2013) provided an easy mechanism of thriving which states that Thriving empowers self-confidence in employees regarding their job and assist them in fitting themselves in the their jobs' framework , that leads them towards personal development. Innovative work behaviors are the source productiveness and effectiveness of an industry (Niessen et al., 2012) , so we can conclude that thriving at work strengthens the innovation process at work. Thriving is significant motivation of innovative work behavior and it is aligned with innovation (Crossan & Apaydin, 2010). When people learning from their work have a chance for the exposure of innovation al work, it is a perfect scenario in which they can correctly recognize, resolve the issues and also can innovative(Oldham and Cummings 1996). Carmeli and Spreitzer (2009) exhibited that thriving increase's innovativeness at place of work as it is a psychological mindset that converts people into creative behavioral outcomes. For that reason, the facilitating role of thriving shows positive role that's gives strength to the dependent and independent variables of current study. Thriving permits the individuals to fit in their jobs and enhance themselves (Wallace et al., 2013). Employees performs a crucial part for developing competitive edge as they are the one responsible for maintain that edge as they are the one that hare first hand to the opportunities for alternate and development in strategies and techniques that aren't noticeable to executives with complex responsibility for innovation in companies. Scott and Bruce, (1994) stated that learning the system that stimulates and allows employees innovativeness is essential in this discipline . Vitality is the sense of having strength and feeling aliveness (Nix, Ryan, Manly, & Deci, 1999), and on the other hand learning referred to as the acquirement of proficiencies, expertise and competencies to uphold functionality with confidence, constitute the cognitive and affective factors of thriving (Edmondson, 1999). Two dimensions jointly are deliberated as factors that give strength within the place of work by proposing internal indications that support workforces towards their forward development (Porath et al., 2012). However while thriving; personnel are more accomplished of gauge their personal growth so that they can enhance effectiveness along with long-time period adoptability and flexibility to their job framework (Spreitzer et al., 2005). furthermore, thriving functions as a feature which provides cushion to employees to learn for growing , and take step towards organizational and personal goals through development( Wallace et al. 2016).the beliefs of thriving—mainly vitality is associated with the theory of intrinsic motivation, and I has many times been counted as a predictor of innovative

behavior among workforce (Amabile, 1996) . Sonenshein, Dutton, Grant, Spreitzer and Sutcliffe (2006) analyzed thriving and stated that it is wonderful via intrinsic motivation in thriving it gives exposure to individual to transform their behavior mainly based on the affective pleasure of the behavior itself which is termed as vitality and on the other side the outcomes of thriving has been noted as highlighting individually vital in recognition goals and fulfillment (i.e., learning). Carmeli and Spreitzer (2009) reveal about three conducts through which thriving boosts the level of for creativity and innovation. Firstly, once employees are at the stage of learning and developing, they are in perfect position to realize and put in force development opportunities. As learning is compulsory for attainment of knowledge that predict innovativeness among employees and assure the accomplishment of innovative efforts. The second conduct tells that when individuals thrive they have more energy and motivation to focus in understanding, implementing and evaluating new innovative strategies. The while people are thriving, they have extra power and motivation to dedicate in the direction of investigating and enforcing new work strategies. Third way is that thriving put in a nutshell optimistic feelings and moods, and every one of this enable extensive cognitive inquiring and innovative problem resolving (Hirt, Levine, McDonald, Melton, & Martin, 1997). Furthermore Fredrickson (2001) said that the sense of effective feelings generates psychological and social resources, which permits people to be further innovative (Amabile et al., 1996). Former empirical studies reveals about the connection about between thriving and innovativeness among employees (Mumford et al., 2002). Former literature supports the theories that thriving triggers innovative behavior (Wallace et al., 2016). Carmeli and Spreitzer (2009) cited that thriving is associated with the work atmosphere. Furthermore, it develop individuals' competence and adaptableness (Niessen et al., 2012).Dutton (2003) concluded that personal thriving consist of power towards constructive emotion and enthusiasm to act together in a particular challenge .the culture at place of work may inspire the worker to perform beyond the job requirements and develop innovative mindset ((Gilson and Shalley, 2004). A previous study indicates that organizational support of innovation empowers innovative behavior (Kark & Carmeli, 2009). Worker innovation within the place of work is a backbone of any successful corporation (Korzilius , 2017). Understanding economic system wherein intangible resources are such resources that performs massive considerable function within the company, which include competencies to inspire competitiveness through “doing greater with less” (Crossan & Apaydin, 2010). Innovative behavior is defined as “intended

generation, advancement, and recognition of recent philosophies inside a work function, organization or a business enterprise” (Scott & Bruce, 1994). Companies found out that significance of personnel’ innovative work behavior as an intangible resourceful asset which offers the exceptional concepts and philosophies to stay competitive, irrespective of obligation or level inside the organizational hierarchy (Korzilius., 2017), personnel’s has direct interaction to opportunities for enhancements and enlargements within procedure and methods the work as they immediately engage with clients (Kark & Carmeli, 2009). Therefore, innovative worker behavior and the system that motivates such behavior is an area of crucial significance in our discipline ( Hülshager et al., 2009). Social cognitive theory states that all people want to construct effective opportunities to improve adaptableness in them (Spreitzer et al., 2012). Thriving at place of work is a sort of increase instrument that offers an experience to the person that how they are managing tasks at work (Porath et al., 2012) in terms of growing new capabilities with proficiencies and operating with vitality (Mumford et al. 2002). Earlier studies indicate that structural assistance of innovation enables innovativeness at place of work (Gilson & Shalley, 2004). Further Patterson et al. (2004) introduced that innovation at place of work isn’t always reflexive, it requires energy to find out new expertise, strategies, techniques, products and technologies with the support of organizational hierarchy and their management to just allow these ideas. Porath et al. (2012) cited that structural techniques can distract the person’s capability in the direction of innovative behavior. The affiliation among thriving and innovativeness at place work expands our perspectives towards significance of employee’s thriving at place of work. Innovative work behaviors are the back support of productiveness and performance of any company considering the fact that their businesses objectives are mutual, employees display their innovative ideas with their other coworkers also with their leaders, and additionally take help for execution of such ideas. Yuan and Woodman (2010) concluded that, whilst worker become resilient aid for innovativeness during work, they turn out to be extra innovative, this is subsequently is more beneficial for the companies. Farr and Ford (1990) stated that any agency will be more innovative if they discover it in cultural terms appropriate, like customs of an agency will accept change instead of following old traditions. Scott and Bruce (1994) stated that organizational atmosphere of innovativeness brings out “expectations” and “advancements” , therefore worker acquire innovativeness and consider it as a enchanting factor(Zhou & Hoever, 2014). Patterson et al. (2004) said that innovative work isn't at all times

inactive—it should be provided strength in era of change with modern technology, approaches, strategies, and products with the assistance from management body in accepting and implementing new ideas. Yuan and Woodman (2010) stated that an appropriate atmosphere for innovation that brings change and innovativeness performs a significant role in achieving organizational goals and making firm efficient in innovativeness. Earlier research confirmed that innovative behavior is dependent on nature of work and it is undoubtedly associated with authentic leadership at workplace (Carr et al., 2003). According to Hülshager et al. (2009), awareness of assistance for innovative work behavior has been observed as significantly related. Porath et al. (2012) said that authentic leadership and organizational approaches directs the man or woman's capability in the direction of innovative behavior. As advocated by Walumbwa et al. (2018) that a fundamental assumption, individuals make use of own resources to advance and obtain the maximum level of functioning, additionally they be dependent on relative resources to accomplish region-associated actions in innovative methods. On the other hand Scott and Bruce (1994) said that organizational atmosphere are supposed as positioned in the direction of creativity and innovation, additionally at the same time as assisting and motivating people for working independently and tracking down of up-to-date ideas (Siegel & Kaemmerer, 1978). As cited in advance, that company's structure and inspiration form the innovative work behavior among workforce (Colbert, Bono, & Purvanova, 2016). Leaders proved to be supportive in innovation is systematic with the argument that influential support for innovation provides the man or woman a chance to work in a positive and innovative attitude (Madrid et al., 2014). Furthermore authors have exhibited that organizational support as an administration certifies organizations to achieve ideal fallouts via providing an innovative environment (Paterson et al., 2014). Authentic leadership uses thriving as tool as for innovative results, as it is reproductive in nature role in so thriving at work also performs a vital in enhancing innovative strategies (Carmeli & Spreitzer, 2009; Smith, 2013). Previous researches revealed that thriving at work influence individual's job presentation (Spreitzer et al., 2012). In the presence of psychological capital, it may affect employees' work behavior such as overall performance, and thriving in social affiliations (Harris, Li, Boswell, Zhang, & Xie, 2014).

Thriving during work is also associated to important employee outcomes innovative work behaviors (Porath et al., 2012). Innovativeness boosts up in the presence of thriving as workforce experience thrilled and they become to grow and learn. (Dutton & Ragins, 2007) Prior literature

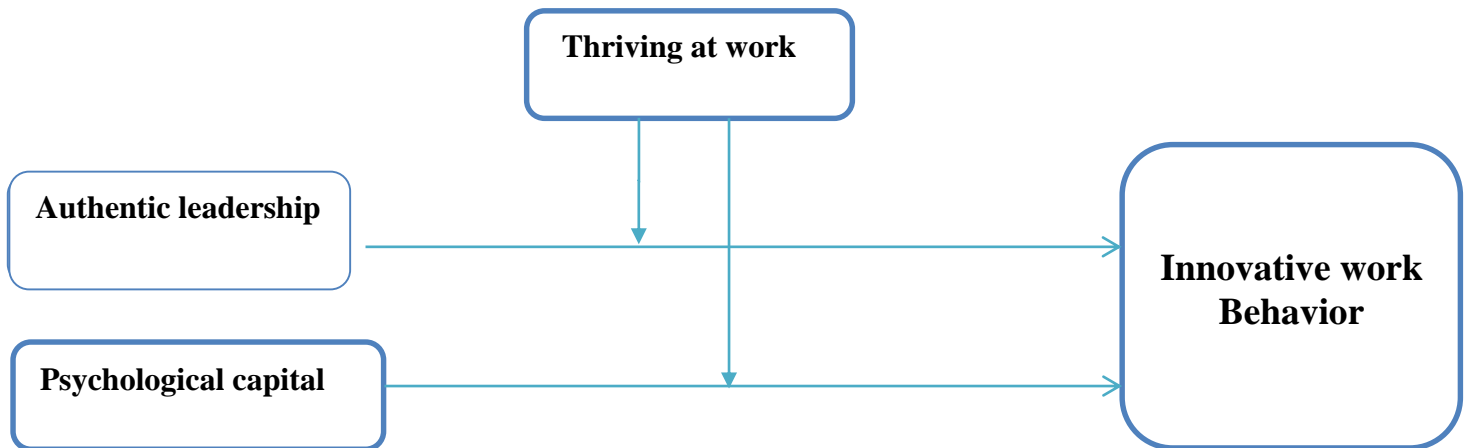


has limited number of studies on thriving at work with the combination of leadership attributes, hence we conclude that in the presence of Authentic leadership, employee thriving at work may increase and result in more productive result (Ali, Lei, Jie, & Rahman, 2018). Authentic leadership not only offers people with influential advantages that allow them to cope with harsh conditions, it could additionally help own developmental and growth and as a result work as a foundation of vitality (Frazier & Tupper, 2016).

Authentic leadership additionally function as an allowing body and inspiring circumstance for obtaining new information and competencies at place of work (Niessen et al., 2012). Definitely, there's evidence for a optimistic connection among authentic leadership and thriving at work (Gilbreath & Karimi, 2012) employees' attitudes and work behavior is dependent on The behavior of Leaders, it also influence their mental and physical health (Gilbreath & Karimi, 2012) , so we conclude that authentic leaders with the support of thriving at work place bring more innovativeness at work place among employees. Kahn (1990) advocated that leaders support is as a contribution in the work environment as it provides secure work environment wherein employees feel inspired to take risks and their experiences allows them learning. Undoubtedly, people with support through their Leaders display more enthusiasm to take part in developmental activities (Taneva & Arnold, 2018)). Likewise, authentic leadership encourages apparent meaningfulness of one's attitude towards their job and relationship at workplace (Paterson et al., 2014), which eventually results in more desirable sensations of vitality (Berg, Dutton, & Wrzesniewski, 2013). reliable with these assumptions, literature says that authentic leadership and thriving at work has a significant bond (Russo, Buonocore, Carmeli, & Guo, 2015). Authentic leaders upsurge their subordinates' feelings of proficiency, in relation to self-determination conception, stimulates vitality (Tummers, Steijn, Nevicka, & Heerema, 2016). Harris, Li, Boswell, Zhang and Xie (2014) exhibited that authentic leaders activate intrinsic motivation by giving attention to energy sharing and granting autonomy to the workforce. Authentic leaders allow the subordinates to behave autonomously at the place of work to realize their work as significant (Albrecht & Andretta, 2011). Authentic leadership has a optimistic and constructive bond with thriving at work and when these variables are combined for boosting innovativeness they work together and produce innovative results (Ali, Lei, Jie, & Rahman, 2018). Therefore, authentic leaders let self- engaged learning so that subordinate freely takes risks to innovate (Harris et al., 2014). Kleine et al. (2019) advocated that Authentic Leaders

boost employees to advance shared goals and enlarge their personal leadership aptitude. Authentic leader permits that their workers develop via bring into line follower, leader, team, and organizational goals all together (Russo, Buonocore, Carmeli, & Guo, 2015). Bass (1985) focused thoroughly on leadership attributes and concluded that authentic leaders deal with cerebral motivation that is considered essential to encourage employees to magnify themselves via exploring their environment and, as a result, expand their experience of learning. Moreover, when authentic leaders performing as an ideal they motivate their employees through inspirational visions, authentic leaders stimulate followers' sense of feeling “alive” and vital at work (Dvir, Eden, Avolio, & Shamir, 2002). There are evidence that authentic leaders promote personnel' motivation, morality and authorization (Russo, Buonocore, Carmeli, & Guo, 2015). Psychological capital is a construct, consists of four facets that include self- efficacy, optimism, hope, and resilience (Luthans, Youssef, & Avolio, 2007). Kleine et al, (2019) argued personnel thrive when they has believe on their potential to master superior responsibilities (self- efficacy), continue towards target pursuit (desire), make active acknowledgments about successive in the future (optimism), and in hard times pull through and achieve fulfillment (resilience). Employees with enhanced psychological capital experience fast learning at their job (Paterson et al., 2014). During facing problems and setbacks throughout the task activities, personnel display more determination, carry on longer, and in view of that learn to become more expert and reach on higher level with support of psychological capital (Flinchbaugh, Luth, & Li, 2015). Surely, psychological capital is optimistically linked with thriving at work, when they are together present , thriving at work strengthens this relationship and employees motivation boosts up to show prominent innovativeness at place of work ( Paterson et al., 2014).

## **2.5. Theoretical framework**



Above figure shows the theoretical framework of the study in detail.

## 2.6. Hypotheses

The following hypothesis has been developed for the analysis based on literature support:

H1: There is positive and significance impact of authentic leadership on employees innovative work behavior.

H2: There is positive and significance impact of Psychological Capital on employees innovative work behavior.

H3: Thriving at work has strengthen the impact between Authentic Leadership and innovative work behavior.

H4: Thriving at work has to strengthen the impact between Psychological Capital and innovative work behavior.

## CHAPTER 3

### RESEARCH DESIGN AND METHODOLOGY

#### 3.1. Overview

For the accomplishment of statistics exploration, the relevant phase turned into to develop the best and relevant studies procedure. Chinnathambi, Raja, sekar and Philominathan (2013) said that research technique is a scientific procedure of resolving a specific problem. It is a technological know-how of analyzing the overall procedure of research. In general, research methodology is considered as a technique that gave details about overall. Similarly, it is quantified that research methodology is the concept for gaining extraordinary information. In this chapter overall methodology is discussed about investigation methods and additional plan for the study. it'll help in inspecting effect of thriving, authentic leadership and psychological capital on innovative work behavior of workforces, this assessment is hypothetically defined inside the theoretical model of the research, using a qualitative data approach to study to IT sector (software program houses) of Pakistan become accumulated to empirically check the model that thriving at work, authentic leadership and psychological capital's impact innovative work behavior of workforces. This chapter consists of complete research layout, conceptual framework, constructs and populace in addition to sampling techniques, together with data collection techniques and strategies implemented for statistical analysis of the study.

#### 3.2. Research Design

Research layout is the method thru which scholar respond to the questions of research and plan for attaining research goals. Saunders, Saunders and Thornhill (2011) stated that inside the research outline it enlightens us regarding the data, sample size, data collection technique and moreover sampling procedures and other data analysis techniques. According to Sreejesh, Mohapatra and Anusree (2014) research plan is the actual framework of an examination and guide at the most useful method to lead the data analysis of the study. Sekaran and Bougie, (2010) indicated that principle aim for the study is to test the hypothesis. This study is non-experimental and non-contrived. Because it have been in the occasion and we speak about this research is non-contrived and non-exploratory type. So we can conclude that it is explanatory. We have followed deductive technique, wherein it is based in a standard theory which is associated to the theory of subject and turn out to be with a selected concept about the theme

with the assisting contentions and debates. Questionnaires of the research is an instrument that analyzes the facts and additionally to check the hypothesis of the research. It consist of 1 to 5 from the 1 “strongly disagree” to 5 “strongly agree” and known as of Likert scale as tool. All questions are primarily adaptive in nature. The data collected for the study is cross-sectional in nature. Once the data collection is complete next then reliability and validity of the questionnaires is being tested to support the hypothesis. The complete information of the instrument of study is attached in findings and results with details.

### **3.3. Construct**

In this portion variables of the study will be described and their operational definition and their dimensions will be discussed. The following construct are established after in-depth studying of literature review with the provision of past studies and their findings.

#### **3.3.1 Innovative Work Behaviors**

De Jong and Den Hartog (2010) defined “Innovative work behavior includes creating new ideas as well as assist in the putting into practice of new ideas for improvement which results in growth performance”.

Innovative behavior at work is consists of any individual employee’s aptitude to innovate and discover new ideas, products, techniques and working methods. It is based on creating new ideas for working more innovatively at work place.

#### **3.3.2 Authentic leadership**

The one’s ability of self-awareness, displaying openness and intelligibility regarding who they actually are as a person and constantly revealing and acting according to their personal beliefs, values, motives and opinions is known as authentic leadership (Walumbwa et al., 2008).

Authentic leaderships is a broader term as authentic leaders can highlight their own flows and weaknesses first, reflect their core values through actions , list their strengths, control pressure and give others space to express themselves and listen to other ideas before making any decision. As their leadership influence others employees at work place, so they need to be more vigilant at their work place.

#### **3.3.3 Psychological Capita**

It is an optimistic mindset of progress of a person. It consist of four positive psychological means, which are hope, optimism, efficacy, and resilience (Luthans, 2004).

Psychological capital makes an individual experience working with more positivity and hopefully to be more confident, find solutions confidently, deals in work matters, be more energetic, manage difficulties and encounter everything easily.

#### **3.3.4. Thriving at work**

It is known as a mental ability where personnel at their work place feel the opportunity of learning and vitality (Spreitzer et al., 2005).

Thriving at work consist of 2 facets, vitality and learning. When one employee feels vital and energetic so he/she takes steps towards learning and developing.

### **3. 6. Population**

Nominated audience for investigation is employees of software houses in Pakistan. For achieving the objective of the research of investigating software houses, separate standards will be used to categorize the employees of software houses for the sample. Twenty software houses in Islamabad and Rawalpindi are the central area in this research, and it is also easily accessible and achievable in the given time. ( Appendix A contains list of Software houses selected for data collection)

### **3.7. Sampling Technique and Sample Size**

A convenience sample is a type of non-probability sampling method where the sample is taken from a group of people easy to contact or to reach. For example, standing at a mall or a grocery store and asking people to answer questions would be an example of a convenience sample. There are no other criteria to the sampling method except that people be available and willing to participate. In addition, this type of sampling method does not require that a simple random sample is generated, since the only criterion is whether the participants agree to participate. Convenience sampling method has been selected while data collection process. It a type of non-probability sampling methodology in which data assembly from general participants that are easily available as respondent of the investigation. Convenience sampling technique is selected because it is less time consuming, as the time horizon for this study is cross sectional. Additionally it is cost effective as we have limited resources so it is best and suitable technique. For getting accurate results or minimum margin error selected 400 middle level employees of the software houses situated in Islamabad and Rawalpindi. Data was collected from 20 different software houses and 20 employees from each software house participated in the data collection. Four hundred questionnaires will be given to employees in survey campaign and data was

personally administered. Conducting the research which is multivariate in nature, the model size should be ten times bigger as paralleled to the real size for investigation is appropriate (Soper, 2014). Sample size of the research should lie in the specified range i-e it should be greater than 30 and must be less than 500 and this is generally conventional range ( Field ,2005). Maxwell and Kelley (2003) derived a theory which says that sample size of the study should lie in the generally defined range. Accurate results of the study are obtained from the generally defined range which is minimum 30 and maximum 500 (Soper, 2014). For getting accurate results of the study 400 questionnaires was given in the software houses to be filled by their employees in Rawalpindi and Islamabad. The figure below possesses the detailed information of the whole sample size of the study.

**Table 1: Particulars of Questionnaire**

<b>Questionnaire Assembly</b>		
Details of questionnaire	Number of questionnaire	Percentage
Total	400	100
Returned	370	93%
Rejected	8	2%
Valid	362	91%

The table gives a complete picture of total number questionnaire , 400 questionnaires was floated for completing the study, 370 questionnaire was returned, 8 questionnaire were rejected and total number of valid questionnaires that is 362. The above table shows that out of 100%, 91% is respondent response rate. However 2% were incomplete and not properly filled. So for the regression analysis selected questionnaires were 91% in numbers 362 questionnaires.

### **3.8. Methods of Data Collection**

Quantitative data gathering approach was used for data collection of the study, via close ended questionnaires. The questionnaire instrument of the study was adapted from the authors who developed it in past studies. For recording the answer of participants 5 point Likert scales was used, reaching from 1 till 5 that is strongly disagree to strongly agree. Hardcopies of questionnaire were given to the respondents for giving their response.

### 3.9. Unit of Analysis

This term is referred to as an entity that is going to be analyzed in the study. It is basically the entity being studied as a whole. Unit of analysis in this study, chosen is middle level employees of the software houses of Rawalpindi and Islamabad.

### 3.10. Instruments

Instruments adopted for the study are as follows;

- Positive Psychological Capital - Used by (Luthans, 1999)
- Authentic Leadership - Used by (Smile Dzisi, 2008)
- Innovative work Behavior- Used by (Den Hartog, 2008)
- Thriving at work- used by (Spreitzer 2005)

The instrument is comprised of five-point Likert scale which range from 1 till 5 and its scales are Strongly Disagree to Strongly Agree. Therefore innovative work behavior contains 09 items, thriving at work contains 10 items, authentic leadership contains 09 items and psychological capital contains 11 questions. Overall 39 items were in total. The instrument also contains the questions regarding demographics of respondent that is their age, level of education, gender and years of experience. The figure below possess the detailed information of the questions.

*Table 2: Details of data collection instrument*

<b>Variables of the study</b>	<b>Total Questions (Items)</b>	<b>Sources of questionnaire</b>
Innovative work behavior	<b>09</b>	Den Hartog 2008
Thriving at work	<b>09</b>	Spreitzer 2005
Psychological capital	<b>10</b>	Luthans, 1999
Authentic Leadership	<b>09</b>	Smile Dzisi 2008
Instruments over all Items	<b>37</b>	

### 3.11. Statistical Methodology used for the Data Analysis

Quantitative statistics is measured through the Statistical package for Social Scientists (SPSS) software. SPSS is selected due to the fact it is suitable for carrying out the statistical calculations that is carried out within the study, which include regression and correlation. Regression indicates the association among dependent and independent constructs and correlation specifies the association among constructs. For hypothesis testing few steps were followed prior. The very



first step followed was to check the assumptions of regression of the study to go through issue of the multi-collinearity in the data. This may make clear that multi-collinearity is not present, correlation and all data is absolutely distributed normally, reliability as well as validity of data. One after another all of the assumptions are being tested and thoroughly represented in the next chapter. Descriptive statistics' uses to test mean, median, skewness kurtosis, standard deviation, minimum maximum values and. regression appropriateness is being examined through skewness and kurtosis. Hypothesis is confirmed thru inferential instruments and it can be simple or multiple regressions (Soper, 2014).

## CHAPTER 4

### ANALYSIS AND FINDING OF RESEARCH

#### 4.1. Overview

In this chapter, we will emphasize on the data analysis. There are three phases to this chapter.

The first phase tends to center in detail on descriptive analysis, the second phase emphasizes the confirmatory factor analysis (CFA) description and the third is hypothesis analysis. It will concentrate on the values of proposed dependent variable i.e innovative work behavior

With the independent variables and moderator authentic leadership, psychological capital and thriving at work. Hence first stage involves of demographic research of existing respondents, based filled questionnaires from software houses of Islamabad/ Rawalpindi.

#### 4.2. Missing Value and Sample Demographic

This part comprises sample demographics (Example; oldness, conjugal status, work experience and education) through descriptive analysis. They identify Data screening issues and also the convergence of approaches used to identify missing values.

#### 4.3. Missing Value Identification and Entry of Data

We conduct more Comprehensive examination of the statistics to identify all possible errors maybe occurred during data entry and for handling missing figures. Therefore, the data is then screened using SPSS-20 to conduct an analysis of missing values for each case and item. For data collection total 400 feedback form were circulated in different software houses of Rawalpindi and Islamabad plus 370 Questionnaires Obtained. Eight questionnaires rejected as they had missing figures. For the final study, a final sample of 362 was therefore picked. The response rate was approximately 90 percent, as we adopted the self-administered questionnaire approach. Due to the complex nature of the target population who filled the questionnaire, the still answer rate was lower than in the normal researches. So many respondents declined to fill out the questionnaire during the survey due to time constraints. The step was to go through descriptive analysis for identifying presence of data Outliers. Outliers were identified through using technique in SPSS. Further any unusual types of variances were also verified by descriptive analysis in the data. Outliers in data were found in few cases (99,172, 118, 271 and 299) these cases were identified and removed from data for further research work.

Questionnaires having Missing values were removed directly through the manual review of the data. No sample was included in the SPSS data sheet which had any missing values. Therefore data becomes clear of missing values in the current analysis.

#### 4.4. Reliability analysis

Quantitative tests are being used in Quantitative Analysis to examine hypotheses. Reliability is defined as the concept suggesting the degree of continuity, reliability over time, and similarity of outcomes over a given time period. (Bashir, Afzal, & Azeem, 2008). Study instrument reliability is necessary for proper results. Improving internal consistency is mandatory to significantly boost research instrument reliability. The terminology used to evaluate the reliability of testing questionnaire is called Cronbach's alpha. The reliability coefficient is 0 to 1; superior coefficient value leads towards better reliability of the data whereas the appropriate maximum is 0.5 and greater. (Sekran, 2008). The questionnaire's reliability was evaluated by the cronbach's alpha values. When the reliability test was completed the scale presented value of cronbach's alpha for Innovative work behavior .879, Authentic Leadership .849, Psychological Capital .843 , Thriving at work .927 and overall value is.889 , which lie between 0 and 1 which is greater and as per acceptable scale. . Hence we could also say all of the variables used in this study are highly reliable on the scale and producing accurate results. The figure below possess the detailed information of the analysis

**Table 3: Cronbach's Alpha outcomes for all variables**

Variable	Cronbach's Alpha	No of objects
Innovative work behavior	.879	9
Authentic Leadership	.849	9
Psychological Capital	.843	10
Thriving at work	.927	9
Overall value of Cronbach's Alpha	.889	37

#### 4.5. Demographic Descriptive

Sample demographic variables have been stated in the study with descriptive study that also contains of oldness, conjugal status, employment experience and education. Table shows

complete overview including its demographic variables study. Therefore the figure below possesses the detailed information of the age, marital status and employment

**Table 5: Demographic Descriptive according to age**

		Frequency	Percent	Cumulative Percent
Valid	Under 30	145	40.1	40.1
	30-39	139	38.4	78.5
	40-49	53	14.6	93.1
	Above 50	25	6.9	100.0
	Total	362	100.0	

Above table, shows that 40.1% personnel of software houses fall within the age bracket of 30 years and under, 38.4 % personnel of software program houses fall within the age bracket of 30 to 39, 14.6 % personnel of software program houses fall within the above 40 to 49 years age bracket and 6.9 % personnel of software houses fall within the age bracket of above 50 years. Its indicate that most of the workers would be in between under 30 years of age group.

The table below possesses the detailed information of the participants according to experience;

**Table 6: Demographic Descriptive according to Experience**

		Frequency	Percent	Cumulative Percent
Valid	1- 5	134	37.0	37.0
	6- 10	114	31.5	68.5
	11-15	46	12.7	81.2
	16- 21	39	10.8	92.0
	Above 21	29	8.0	100.0
	Total	362	100.0	

Above table, shows that 37 % personnel of software houses had 1 to 5 years of past work experience, 31.5 % of personnel of software houses had 6 to 10 years of past work experience,

12.7 % of personnel of software houses had 11 to 15 years of past work experience, 10.8 % of personnel of software houses had 16 to 21 years of past work experience and only 8 % of personnel had above 21 years of past work experience as per collected data.

**Table 7: Demographic Descriptive according to femininity**

	Frequency	Percentage	Cumulative- Percentage
Male	304	84.0	84.0
Female	58	16.0	100.0
Total	362	100	

Above table, shows that 84% participants from software were male employees and 16% of participants from software houses were females. This indicates many of the staff members were male.

**Table 8: Demographic Descriptive with of literacy**

		Frequency	Percentage	Cumulative- Percentage
Valid	Undergraduate	13	3.6	3.6
	Graduate	112	30.9	34.5
	Master	225	62.2	96.7
	MS/M.Phil	12	3.3	100.0
	Total	362	100.0	

The table above, shows that 3.6% participants from software houses were undergraduate qualified, 30.9% participants from software houses were graduate, 62.2 % participants from software houses has completed their masters and 3.3 % participants from software houses MPhil qualified. So we can say that majority of employees has completed masters.

#### **4.7 Regression Analysis**

The linear regression model is used to investigate the relation among dependent variable Y and independent variable X. It evaluates the effects of variable independence on the dependent

variable. The perfect linear regression equation will follow BLUE (Best, Linear, Unbiased Equation) requirements. Below are the regression analysis assumptions.

#### **4.6.1 Assumption of Regression Equation**

There are few assumptions of models of simple or multiple regressions. One should justify All hypotheses are made that use simple and multiple regression models. A linear model tried to clarify the basic assumptions. These assumptions are:

##### **4.6.1.1 Assumption # 1**

The independent variables can be measured at level of a ratio or interval. The five-point Likert scale of our questionnaire was adopted, and the Likert scale is an interval scale. Hall and Wang (2005) mentioned that Likert scale of 5 points is assumed as an ordinal scale. Therefore this scaling method selected for investigation completes first regression analysis assumption.

##### **4.6.1.2 Assumption # 2**

Second assumption states that in order to progress towards a SEM analysis, it is important to test normality assumptions. Kurtosis is also an accurate measure to verify data normality and drawing a normal curve as well describes data normality. Measures of kurtosis and skew are used to determine if indicators met normality assumptions (Kline, 2005). Measures of kurtosis help identify if a curve is normal or abnormally shaped. If a normal curve is leptokurtic, the curve is highly arched at the mean with short tails. Platykurtic curves, on the other hand, are flatter than normal with a lower peak and longer tails. A skewed curve is either positively or negatively skewed. Positively skewed curves show the majority of scores below the mean, and negatively skewed curves are just the opposite. Both curves result in an asymmetrical normal curve. Both skew and kurtosis can be analyzed through descriptive statistics. Acceptable values of skewness fall between  $-3$  and  $+3$ , and kurtosis is appropriate from a range of  $-10$  to  $+10$  when utilizing SEM (Brown, 2006). Values that fall above or below these ranges are suspect, but SEM is a fairly robust analytical method, so small deviations may not represent major violations of assumptions. Other types of analyses may have lower acceptable skew or kurtosis values so researchers should investigate their planned analysis to determine data screening guidelines.

With examining the skewness and kurtosis formerly carrying out any research, it is also crucial to validate data for certain simple assumptions, a) normal distribution of data, (b) multicollinearity should not exist, and (c) data should be free of missing values and outliers in the data. Kurtosis and Skewness tell us whether data is normal or not. According to Hall and Wang

(2005), means, variances, kurtosis and skewness gave assurance of the normality of the data whereas (Tabachnick & Fidell, 2007) stated that Histogram is enough to explain normality of the data. Further, Freund et al. (2000) stated that one could check multi-collinearity of the data through variance inflation factor (VIF) and drawing correlation matrix. Therefore, the values of mean, variances, kurtosis, skewness, and VIF calculated in the present chapter are for verifying that the data meets the basic requirements of normality and multi-collinearity.

Hall and Wang (2012) Claim that sample range must ( $> 200$  to  $300$ ), data abnormality will not cause significant problems. Some studies showed that non-normality of the data does not cause issues when data size is large. Similarly, Ghasemi and Zahediasl (2012) said that if sample size is large enough ( $> 200$  or  $300$ ), the violation of the normality assumption should not cause major problems. This indicates that we can use parametric procedures even when the data distribution is not normal among all the points. Furthermore, if a study has a sample size consisting of hundreds of observations, we can ignore the distribution of the data. As the central limit theorem says, (a) if the sample data is approximately normal then the sampling distribution will also be normal, (b) in large samples ( $> 200$  or  $300$ ), the sampling distribution usually tends to be normal, irrespective of the shape of the data. Irrespective of the above discussion, current data is normal, so there is not any issue with the analysis. According to Ghasemi and Zahediasl (2012) with large enough sample sizes ( $> 200$  or  $300$ ), the violation of the normality assumption should not cause major problems; this implies that we can use parametric procedures even when the data are not normally distributed. Furthermore, if we have sample size consisting of hundreds of observations, we can ignore the distribution of the data. The current statistics are normal and following tests provides the evidence.

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observations, we can ignore the distribution of the data. The current statistics are normal and following tests provides the evidence.

**Table 9: Descriptive Statistics of Normality for Innovative Work Behavior**

Descriptive Statistics										
	N	Range	Min	Max	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
IVB	362	3.22	1.67	4.89	3.9182	.78902	.132	.128	-1.165	.256
TAW	362	3.33	1.67	5.00	3.9914	.93701	.010	.128	-1.354	.256
PC	362	3.30	1.40	4.70	3.8761	.71524	.026	.128	-.976	.256
AL	362	3.78	1.00	4.78	3.7682	.77232	-.363	.128	-.003	.256
Valid	362									

However, in current analysis, it clearly shows that data is normal with help of skewness and kurtosis. Because when statics value divide with value of std. error, response should be among +2 to -2. Hence in current analysis after skewness division along with its represented standard deviation all results lies ranging from +2 to -2 (Field, 2006). The data were reliable and also normally distributed because the deviation from mean for the variables was less than 1. However, the value indicates the responses of the targeted respondents in the above table i.e., innovative work behavior.

**4.6.1.3 Assumption # 3**

Below ranges shows P-P plots made of multiple regressions are normal. A standard P-P plot tells residuals or error terms are naturally distributed. Drawn Figure 4.1 meets normality assumption for regression.

**Fig-4.7:** *Innovative work behavior; P-P-Plots of Regression*

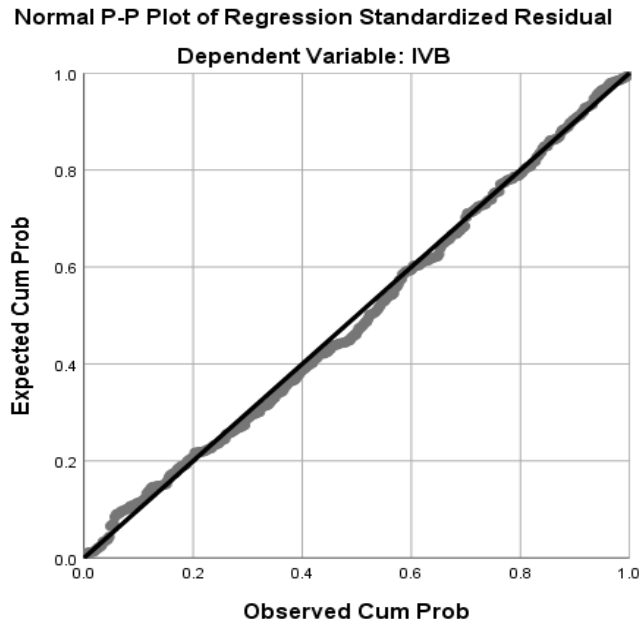


Fig-4.7 displays the P-P-plots are normal with respect to regression. These plots tests that error terms and their residuals are normally distributed or not. Results conclude that actual and expected figures are definitely normal and it provides evidence of normality for regression.

**4.6.1.4 Assumption# 4**

*Table10: details of Model of authentic leadership, psychological capital, thriving at work and innovative work behavior*

<b>Model Summary</b>										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin Watson
					R Square Change	F	df1	df2	Sig.	
1	.747	.558	.556	.52598	.558	226.68	2	359	.000	1.399
	a					0				

a. Predictors: (Constant), AL, PC  
b. Dependent Variable: IVB

we assess the overall model description of the correlation to evaluate the findings of the dependent variable innovative work behavior with the predictor variable authentic leadership, psychological capital and innovative work behavior to evaluate the significance of, R square. Sekran (2013) claimed that the findings of the best-suited model Durbin-Watson were significantly less than +2 and that the findings of the R Square were basically in 0 to 1. And the Durbin-Watson's value that there really is no concern of auto-correlation as the Durbin-Watson's value is 1.399 which again is considered to be the most acceptable and ideal for analysis. R Square is 0.558 as per standard range. Hence it shows R Square has appropriate results and results of the correlation approves that no chances of auto correlation seen and the model is fit.

#### **4.6.1.5 Assumption # 5**

In this stage, we verify for multi-collinearity, even if it is not present in the data. The presence of multi-collinearity in model presentation triggers data-related issues and inconsistencies, and so it's essential to remove all these occurrences from the data.

The problem of multicollinearity should not be about results. This multicollinearity assumption doesn't really apply in the case of simple regression analysis but is suitable for multiple regression analysis. Multicollinearity occurs whenever the independent variables get into a linear relationship. There is indeed a solid linear relationship in this, shown in the study predictors.

We verify element multicollinearity by using Tolerance and Variance Inflation statistics. Tolerance assists in assessing multicollinearity. Small tolerance value means constructs of the model is absolute along with the predictor so it is removed from linear regression equation. Tolerance lie from 0.1 to 1.00 but also nearby values requires re-examination. VIF of multicollinearity states its influence variables and it is deliberated as reciprocal of tolerance. If results shows > value if VIF and < value tolerance it denotes the multicollinearity problem. The suitable range for VIF is 1.00 to 10. Nearby values requires re-examination. The required tolerance range established by the authors is > 0.2 and VIF /< 5.0 (Saunders, 2011). Table 4.6 demonstrates the multi-collinearity with reference to the current study model.

**Table 11: Multicollinearity of data**

<b>Collinearity Statistics</b>		
	Tolerance	VIF
Authentic Leadership	.474	2.108
Psychological Capital	.474	2.108

a. Dependent Variable: Innovative behavior at work

Thus the, Table 4.8 shows that multi-collinearity is free of data. In SPSS the values of VIF and tolerance techniques have been checked for collinearity (Hair et al., 2006). The above table proves that the information set appears to contain no multi-collinearity.

Multicollinearity classifies therefore that 2 (independent variables) are related to each other. If VIF and Tolerance findings provided to the above-described standards then multi-collinearity wasn't really present. Table 4.8 clearly shows that this study's analysis is free of the question of multicollinearity. For example, all VIF values were below  $< 10$ , and tolerance values were less than  $> 0.1$ . Consequently, principles of Tolerance & VIF satisfy the criteria of non-multi collinearity.

#### **4.7 Exploratory Factor Analysis**

It states all of a set of measured variables' viable underlying issue structure without enforcing whichever defined structure on ultimate results. EFA ends up creating the link among the objects depending on correlations which tells that constructs are loaded on which latent variable. Valuate whether or not components are loaded on the very same latent variable or on another latent variable. Gie Yong and Sean Pearce (2013) referred to as the basic cut-off values for an exclusive EFA measure. Usually, three tables would be used in EFA (Exploratory Factor Analysis) to evaluate the construct.

Those are the following tables;

(a)rotated-Matrix, (b) Structure-Matrix and (C) Component Correlation-Matrix

But then again the element correlation-matrix assists in setting up strengthen in the connection in among different elements of construct. Furthermore rotational matrix is appropriate for investigating the separate filling of every particular object upon the proper measurement, but the next table is named the structure matrix, which relates to the valuable data on the correlation coefficient between different aspects. Earlier than isolating, a factor eigen value rules (Kaiser, 1960). consequently the “eigen value rule” Kaiser (1960) gone through a certain discussion on the belief that factors comes up with an eigenvalue less than one will not be considerable as an example they pay exceptionally less or unimportant variation within the construct. Because of this, study has to be unrestricted of such elements or Factors should not include those elements. As a result such study used the primary element factoring which include rotation technique. author Suggested basic component factoring was by far the most suitable method for factor analysis once data became circulated normally. Overall when the set of data became significantly not normal (Fabrigar et al., 1999). Consequently the concept of seeming innovative work behavior includes 11-items. The innovative work behavior construct was managed against one loading factor for the purpose that over EFA (exploratory factor analysis) it was found that nine items were sufficiently correlated to such a construct. Set numbers of methods of construct found below identified tests. Therefore, innovative work behavior was maintained unaffected across 9 items being seen in table below.

**Table 12:** *Innovative Work Behavior CFA*

<b>Preliminary-Items</b>		<b>Final-Items</b>			
Constructs	Items	constructs		Items	
innovative work behavior ( IWB)	IWB1, IWB2, IWB3, IWB4, IWB5, IWB7, IWB8, IWB9, IWB10, IWB11.	innovative work behavior ( IWB)	IWB1, IWB2, IWB3, IWB4, IWB5, IWB6, IWB7, IWB8, IWB9.		

Hypothesis of perceived authentic leadership (AL), having 10-items. AL's development was restricted to one-factor loading in view of the fact that that factor was disclosed by EFA

(exploratory aspect investigation) that these measurements took seven items in adequate correlation. Settled amounts of the underlying examined elements strategy said to be coming in. AL was kept the same across 9 items along the same lines to appear in table below.

**Table 13: Authentic Leadership CFA**

<b>Preliminary-Items</b>		<b>Final-Items</b>	
Constructs	Items	constructs	Items
Authentic Leadership (AL)	AL1, AL2, AL3, AL4, AL5, A6, AL7, AL8, AL9, AL10.	Authentic Leadership (AL)	AL1, AL2, AL3, AL4, AL5, A6, AL7, AL8, AL9

The construct of psychological capital (PC), having 13-items. The formation of psychological capital was restricted to one-factor loading in given the fact that that factor was revealed by EFA (exploratory aspect investigation) that these parameters were appropriately correlated taking 13 objects. Psychological capital, therefore, is retained in the same the way by 10 things that appear in table below.

**Table 14: Psychological Capital CFA**

<b>Preliminary-Items</b>		<b>Final-Items</b>	
Constructs	Items	constructs	Items
<i>Psychological-Capital</i> (PC)	PC1, PC2, PC3, PC4, PC5, PC6, PC 7, PC8, PC9, PC10, PC11, PC12, PC13.	<i>Psychological Capital</i> (PC)	PC1, PC2, PC3, PC4, PC5, PC6, PC 7, PC8, PC9, PC10.

The construct of perceived Thriving at Work (TAW), having 12items. The build of Thriving at Work was restricted to one-factor loading on the grounds that this factor was identified by EFA

(exploratory factor analysis) that these measurements were appropriately correlated with 10 objects. Therefore, Thriving at Work was maintained in table and shows 8 items.

**Table 15: Thriving at Work CFA**

Preliminary-Items		Final-Items		
Constructs	Items	constructs	Items	
<i>Factor Thriving at Work</i> (TAW)	TAW1, TAW2, TAW 3, TAW4, TAW5, TAW6, TAW7, TAW8, TAW9, TAW10, TAW11.	<i>Factor Thriving at Work</i> (TAW)	TAW1, TAW3, TAW5, TAW7, TAW9.	TAW2, TAW4, TAW6, TAW8,

#### 4.8 KMO and Bartlett’s Test of Sphericity

KMO and Bartlett’s test of Sphericity is a measure analyzing test group appropriateness hence it has been recommended to check Variable ratio to be used for the data analysis. Checking by KMO and Bartlett's Test is very important in data analysis because it plays an important role in accepting the sample suitability. The acceptable range of KMO is 0 to 1 and accepted index globally was over 0.6. Whereas Bartlett's Sphericity test also shows the importance of the findings of the studies and thus demonstrates validity. It also indicates the validity of the data collected to resolve the problem.. Perry et al. (2012) analysis is suitable if the Bartlett sphericity measured values are greater than 0.7 but 0.6 was also acceptable and 0.5 is average range. The following table shows the test results in detail;

**Table 16: KMO and Bartlett's Test**

KMO & Bartlett's Test	AL	PC	TAW	IVB
KMO Measure of Sampling Adequacy	.881	.924	.930	.875
Approx. Chi-Square	1052.704	1579.524	2151.214	1618.407
Bartlett's Test of Sphericity df	36	45	36	36
Sig	.000	.000	.000	.000

#### **4.9. Structural Equation Modeling**

Structural equation modeling (SEM) is most normally followed used for evaluating confirmative elements. SEM technique evaluates the credibility of the essential hypotheses with empirical data help and likewise evaluates and then analyzes the assorted models via statistical analysis. According to Lei and Wu (2007), SEM is a significant method that analyzes the inter-relationship in amongst latent concepts generally measured via numerous objects; however such analysis is not feasible with other techniques. Furthermore, SEM is an appropriate technique as compared to other techniques as it allows figuring out the factors that assist in identifying the flaws in the methods and checks for the model fit (Suhr, 2006). This method relates so well with a confirmatory methodology generally known as hypothesis testing. In this technique, it generates a casual-relationship in amongst various variables. And multiple models identify these casual arrangements. Lei et al. (2007) said that the primary intention of SEM research technique is that to fit in the gathered sets of data in the study, which follows the pre-listed organization as hypothesized by the author. In addition, model-fit is based on the measures the stability of the spontaneous patterns (Lei et al., 2007). SEM (structural equation modeling) is a procedure that is appropriate for a huge sample typically  $N > 200$  and the required sample size considerably dependent on model density (Kline, 2005). This technique addresses both the measuring model as well as the structural model. Essentially it proposes the "fit" model for the experimental data-



gathering. Therefore, one more function of SEM is to implement path-analysis and finding out relations between other variables such method corresponds with both measuring model and the structural model (sekran, 2004).

#### **4.9.1 Fit Indices**

Author said that fit indices specifies the level of constancy between the measures of specified an factor of variances and co-variances of the collected set of statistics (Suhr, 2006). Kenny and McCoach (2003) mention about prior literature that follow Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and RMSEA to study a model fit. it determines model fitness of gathered data, it is based upon the standardized regression weights and observation of the model fit. Many authors follow diverse assessments to conclude a model fit. Tabachnick and Fidell (2007) said that, Chi square is a useful measure and the appropriate range for the data is in-between 5.0 to 2. However Browne and Cudeck (1993) concluded their discussion and said that, root mean square error of approximation value should be  $> 1$  or  $.08$  for model fit. Barrett (2006) concluded that, RMSEA provides values lie nearly in the fit the model, through unidentified, but then optimally chosen parameters could be suitable to the covariance matrix of the population.

Byrne, (1998) defined GFI determines the variation formula, and the GFI value for a super fit formula should be higher than the 0.90. IFI results are used for the comparison of the chi-square, which is centered by the assumption of null hypothesis. Browne and Cudeck (1993) said that, GFI, TLI and IFI measures determine significantly with the selected sample size. Suhr (2006) stated that CFI are the ground measures that for determining sample size of the research.in another research , Bentler and Bonett (1980) stated that the value of CFI must be greater than .90 for the fit model.The normal fit-index (NFI) calculates the model by parallel comparison among model's model's  $\chi^2$  and null value ( Hooper et al. 2008) . Bentler and Bonett(1980) stated that , NFI results must lie in 0 -1 for accuracy. For non-normed data Tucker-Lewis Index (TLI) technique is followed. The lowermost suitable range for TLI is 0.80 (Hooper ,2008). A fit measurement indicates the appropriateness of the sample size and is called as Hoelter effect (Hoelter, 1983). Hu and Bentler (1995) stated that, HOELTER 's value reveals about the appropriate sample size for model fit, and the suggested upper suitable range is 200 for model fit. When the model proposed is not correct, the errors are compiled by examining the terms of error and terms that are co-variated at  $>10$  are normal terms. Modification indexes analyzes the

degree of reduction in the chi-square model and anticipated factor update calculates the predicted parameter approximation switch size each time a static parameter is generously evaluated (Lewis & Byrd, 2003). Standardized results are analyzed after achieving model fit analysis. Cudeck (1993) mentioned that uniform regression results should 0.40 or greater. When results lie below as per the least acceptable value, than items are removed before final analysis (Anderson & Gerbing, 1988).

#### **4.10. Model Fit Measurement and Modifications**

The concentration of current unit on the initial measuring model fits in well with the (CFA). Byrne (2001) said CFA is an effective method for assessing the validity of factorial structures, and it really is worth investigating the measurement model and assessing the weather under which the elements are loaded under required direction or not. Lei and Wu (2007) defined CFA even said in the case of mutual causes, it provides an opportunity of correlation of errors and residuals.

CFA is a simple model recognition technique, an important phase in a model fit rejection situation is the use of methods that result in an adequate model fit. AMOS results give choices that help in the validation of dimensional measurement and moreover evaluate the fit model. Change indices have variances in regression weights which covariance, and to provide an efficient way to achieve a fit model. In their study, Cudeck (1993) claimed that the change index is a reduction in chi-square due to the shift in parameter estimates with regard to other fixed-parameter estimates, and proposed that any shift index ( $> 3.84$ ) would obtain an improved model. Standardized loading is one important feature of 0.40 (Lewis & Byrd, 2003) that denotes elements which are basically loading on latent variables and lowest loading. Therefore, it indicates that if the loading does not assist the model then it involves elimination of elements or often adding a novel direction and linking the residual items to the suit of the model (Cudeck, 1993). According to these assumptions further analysis is given in detail.

#### **4.11. Confirmatory Factor Analysis**

Confirmatory Factor Analysis (CFA) is used to verify and approve the structure of the variables within the sample. CFA's key objective is to highlight the variable observed or the latent variable. Depending on the latent variable identification, it is assessed as part of the final model that is concluded for evaluation. CFA manages the factor loading of selected variables and offers an effective model suitable to likely acknowledge or dismiss the given study hypothesis. The

CFA differs EFA in relations , It is a technique as well as a theory-making process. That’s why in CFA analysis is built on observed and non-observed variables in theoretical relationships. As Hair et al (1998) said that though using this technique the researcher minimizes the variance between estimates and matrices observed.(CFA) is focused on the first order factor measurement model, through this technique of examining researcher can tell how measured variables will be represented in a construct(Byrne, 2010). Before this, technique of Cronbach Alpha and confirmatory factor analysis (CFA) are applied. Once Cronbach-Alpha is applied for first order model, factors or variables are then ready for the second order level analysis. For acceptable model fit second order level analysis is used for the collected data and for hypothetical support for the established model (Hair et al, 1998).

Right after the proposals, execution of data and use it as standard for examination fit lists, dependability with validity of the suitable number of measures of this analysis (Kline, 2011). Below are the details about model fit.

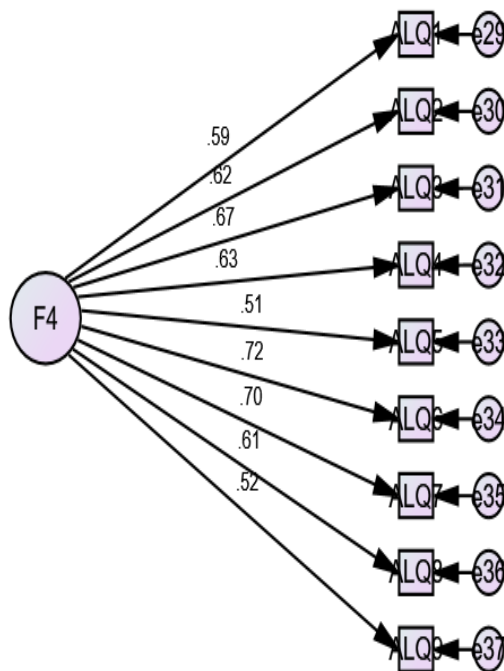
**Table 17: Acceptable Value of Model Fit**

<b>Model Fit Levels</b>	<b>Overall Model Fit</b>				
	<b>Model Fit</b>		<b>Comparison of Model</b>		
<b>Fit-Measures</b>	<b>CMIN/DF</b>	<b>RMSEA</b>	<b>IFI</b>	<b>TLI</b>	<b>CFI</b>
<b>Required analysis</b>	Greater than 2	Less than 0.1	Lesser than .90	Lesser than .90	Lesser than .90
<b>Acceptable ranges</b>	Less than equal to 2 till 5	Less than 0.08 to 1	equals or greater .90	equals or greater .90	equals or greater .90

### 4.11.1 Authentic Leadership

Authentic leadership is a self-governing variable in this analysis, which comprise of 9-items in its questionnaire(fig 4.2). the primary request CFA was evaluated model fit, eight items have directed ideal factor loadings that is 0.50. Though, first request CFA was executed for authentic leadership. And the model fit was earlier stated.

**Fig 4.2: Authentic Leadership CFA**



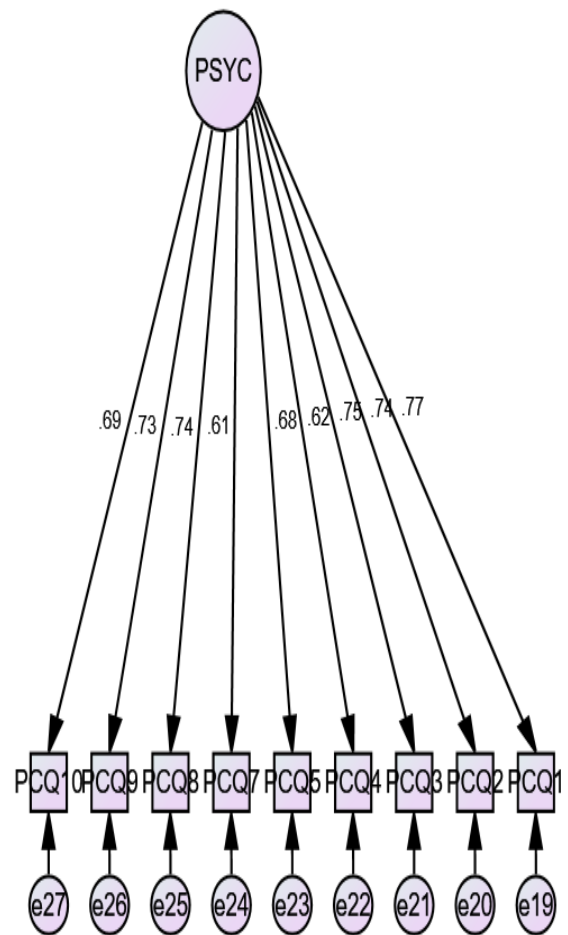
**Table18:** Authentic Leadership Model Fit

Quest. Item	Instrument In Detail			Final	
				Standardize d Loading	Critical Ratio
				.59	12.470
<b>AL1</b>	I can list my leader’s three greatest weaknesses at work place				
<b>AL2</b>	My leader’s actions reflect his core values.			.62	12.496
<b>AL3</b>	I can list my leader’s three greatest strengths.			.67	12.167
<b>AL4</b>	My leader listens closely to the ideas of those who disagree with him.			.63	12.566
<b>AL5</b>	My leader let others know who he/she truly is as a person.			.51	12.958
<b>AL6</b>	My leader does not emphasize his/her own point of view at the expense of others.			.72	11.918
<b>AL7</b>	My leader rarely presents a “false” front to others.			.70	11.743
<b>AL8</b>	My leader listens very carefully to the ideas of others before making decisions.			.61	12.249
<b>AL9</b>	My leader admits his/her mistakes to others.			.52	12.602
	CMIN/DF ( $\chi^2/df$ )	RMSEA	GFI	TLI	CFI
<b>Model Fit</b>	2.333	.04	.975	.991	.925

### 4.11.2 Psychological capital

Psychological capital is an autonomous variable in present study that includes 10-items. Data was compiled for CFA calculation, number of items displayed complete factor-loadings that was 0.50. hence , CFA was executed for psychological capital. As model fit displayed below.

**Figure 4.3:** Psychological Capital CFA



**Table 19: Model Fit of Psychological Capital**

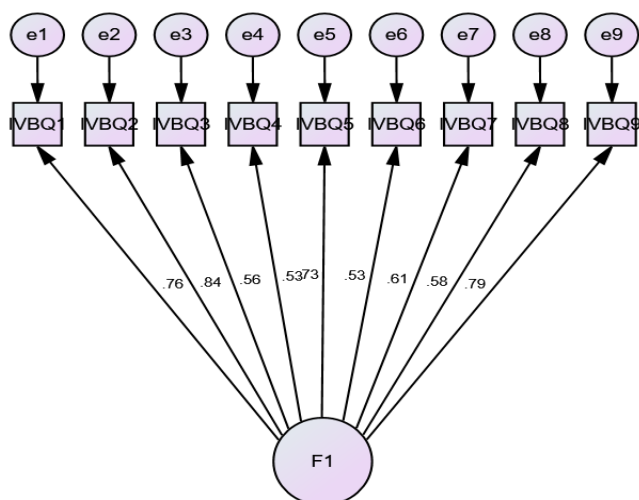
<b>Item</b>	<b>Details</b>	<b>Final</b>	
		<b>Standardized</b>	<b>Critical-</b>
		<b>-Loading</b>	<b>Ratio</b>
PCQ1	I feel confident analyzing a long-term problem to find a solution at my work place.	.77	12.231
PCQ2	I feel confident in representing my work area in meetings with management at my work place.	.74	12.313
PCQ3	I feel confident helping to set targets/goals in my work area at my work place.	.75	12.258
PCQ4	I feel confident contacting people outside the organization (e.g., suppliers, customers) to discuss problems.	.62	13.010
PCQ5	If I should find myself in a jam at work, I could think of many ways to get out of it.	.68	12.862
PCQ7	There are lots of ways around any problem at my work place.	.....	13.057
PCQ8	I can think of many ways to reach my current work goals.	.61	12.575
PCQ10	I usually manage difficulties one way or another at work.	.74	12.536

PCQ11	When things are uncertain for me at work, I usually expect the best.	.73	12.760		
PCQ10	I'm optimistic about what will happen to me in the future as it pertains to work	.69	13.318		
	CMIN/DF ( $\chi^2/df$ )	RMSEA	GFI	TLI	CFI
<b>Model Fit</b>	3.723	.06	.907	.912	.933

### 4.11.3 Innovative Work Behavior

Innovative work behavior is a sovereign element in this analysis that incorporates 9-questions (fig 4.5). analysis evaluated for the primary request CFA to measure model fit; 5 elements have directed absolute factor loadings i.e. over 0.50. Therefore first request CFA was executed for innovative work Behavior. Display fit is said in table 20.

**Figure 4.5:** Innovative work Behavior CFA





**Table 20:** *Innovative work Behavior model-fit*

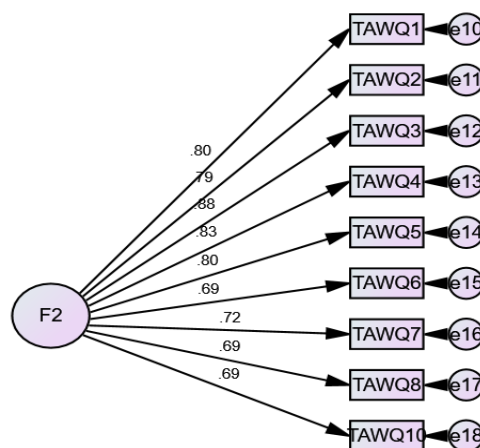
<b>Quest. Item</b>	<b>Instrument In Details</b>	<b>Final</b>	
		<b>Standardized Loading</b>	<b>Critical Ratio</b>
IVBQ1	I often pay attention to issues that are no part of my daily work at my work place.	.76	12.393
IVBQ2	I look for opportunities to improve things at my work place.	.84	11.411
IVBQ3	I Often look for opportunities to improve learning at my work place.	.56	13.224
IVBQ4	I feel alert and awake wonder how things can be improved at my work place.	.53	13.251
IVBQ5	I often explore new products or services at my work place.	.73	12.460
IVBQ6	I often search out new working methods, techniques or instruments at my work place.	.53	13.227
IVBQ7	I often generate original solutions for problems at my work place.	.61	12.869
IVBQ8	I often create new ideas at my work place.	.58	13.185

IVBQ9	I often attempt to convince people to support an innovative idea at my work place.				.79	10.994
		CMIN/DF ( $\chi^2/df$ )	RMSEA	GFI	TLI	CFI
<b>Model Fit</b>		3.216	.05	.964	.938	.964

#### 4.11.4 Thriving at Work

Thriving at work is an autonomous variable in this analysis, which consists of 9-items. For results CFA has been assess demonstrate fit, five elements have directed ideal factor loadings as 0.50. And CFA was executed for thriving at work. Table 21 quantified model fit.

*Fig 4.4: Thriving at Work factor analysis*



**Table 21: Thriving at Work Model fit**

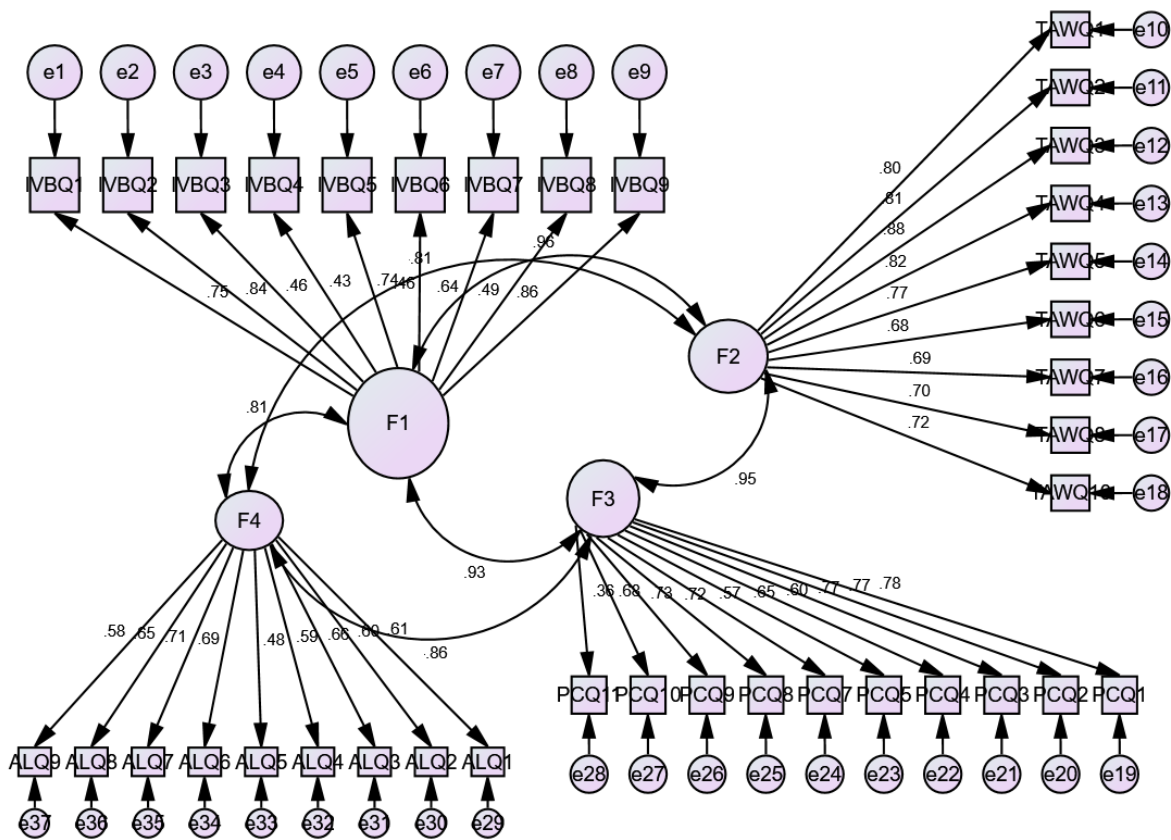
Items	Instrument In Details	Final	
		Standardized Loading	Critical Ratio
TAWQ1	I feel alive and vital at my work place.	.80	12.377
TAWQ2	I have energy and spirit at my work place.	.79	12.294
TAWQ3	I do not feel very energetic at my work place.	.88	11.270
TAWQ4	I feel alert and awake at my work place.	.83	12.228
TAWQ5	I am looking forward to each new day at my work place.	.80	12.555
TAWQ6	I find myself learning often at my work place.	.69	12.936
TAWQ7	I continue to learn more as time goes by at my work place.	.72	12.887
TAWQ8	I see myself continually improving at my work place.	.69	12.855

	I am developing a lot as a person at my work place.				
TAWQ9				.69	12.808
	CMIN/DF ( $\chi^2/df$ )	RMSEA	GFI	TLI	CFI
<b>Model-Fit</b>	4.602	.05	.920	.935	.966

#### 4.12.5. Overall Measurement of Model Fit

This section is comprise of complete measurement of model including CFA's above heads with the purpose of measuring dimensions and validate magnitudes. At this stage, model measurement discussion narrates both dependent and autonomous variables. However, multiple elements were removed because of the less standardized and cross loading data. adequacy of measurement model was testified in this segment as it is advanced thru empirical covariance formation of all constructs. Therefore outstanding concluding objects shifted to contrary construct for being suitable fit amid data and measurement model. Displayed in below figure;

**Figure 20:** CFA for Overall Model-Fit



**Table 22: Model-Fit**

	CMIN/DF ( $\chi^2/df$ )	RMSEA	GFI	TLI	CFI
Model-Fit	3.238	.061	.970	.945	.955

### 4.12 Validity of Construct

Validation progression acts as most essential part in research, providing a dynamic structure to the research procedure along with theory final conclusion of the study is accepted as practical application. In situation of survey the main areas focused are content and construct validity. Hair et al (2010) in their study stated that, construct validity is an critical factor confirms the overall item set is correct demonstrative of hypothetical latent construct for every variable they have been developed.

The content validity stated that there is no dispute of common variance. Therefore divergent and convergent validity is being focused. Coefficients of the above leads towards the rejection or acceptance. divergent validity is applied to the study at which there is a significant difference present in the middle of in autonomous constructs by evaluating variation in dependent variables, while oppositely convergent validity notify about proportionate variance (Hair et al., 2006). Another researcher exhibits that as an outcome of observing measurement convergence, the convergent validity is projected via average variance extracted (AVE) ( Bogacz et al., 2006). as per past literature AVE must be > 0.5 that supports presence of convergent validity, combined with discriminant validity . So it states  $MSV < AVE$  that approves that there is no issue data (Hair et al, 2006). When correlation is < 0.8 in two variables it indicates existence of convergent validity (Sekran, 2004).

**Table 23; Details of validity**

	CR	AVE	MSV	ASV
<b>Authentic Leadership</b>	0.754	0.605	0.437	0.470
<b>psychological Capital</b>	0.744	0.579	0.337	0.542
<b>Thriving at Work</b>	0.778	0.613	0.410	0.547
<b>Innovative-Work behavior</b>	0.881	0.712	0.616	0.524

### 4.13 Hypotheses Analysis

#### 4.13.1 Authentic leadership has positive and significant impact on employees innovative work behavior.

A standardized estimate of the inter-relationship of IWB-AL shows beta value 0.78 and value of  $p = 0.000$  and 13.34 of critical value, that's proves significant association in understudy variables . Authentic Leadership optimistically influences employees innovative work behavior (Walumbwaet al., 2008). Cerne et al. (2013) in their research concluded that employees at work place , when experience support of their leaders authenticity become more innovative and

generate innovative ideas and produce more innovatively. According to Janssen, (2001) innovative employees are additionally nonconforming and self-governing, authentic leaders' role becomes very crucial for organization for aching its goals. Authentic leadership is directly and significantly inter-related with innovative work behavior of employees. Cerne et al. (2013) concluded and said authentic leadership optimistically influences staff innovative work behavior, directly and indirectly. Leaders can affect the overall well-being of their followers by being Authentic, efficiently aware of a follower's need for Psychological Empowerment (Sandhu, Dastgeer & Haq, 2019). As a result literature and results of this study supports H1 and affirm that authentic leadership has significant as well as optimistic influence on employees innovative work behavior, shown in table below.

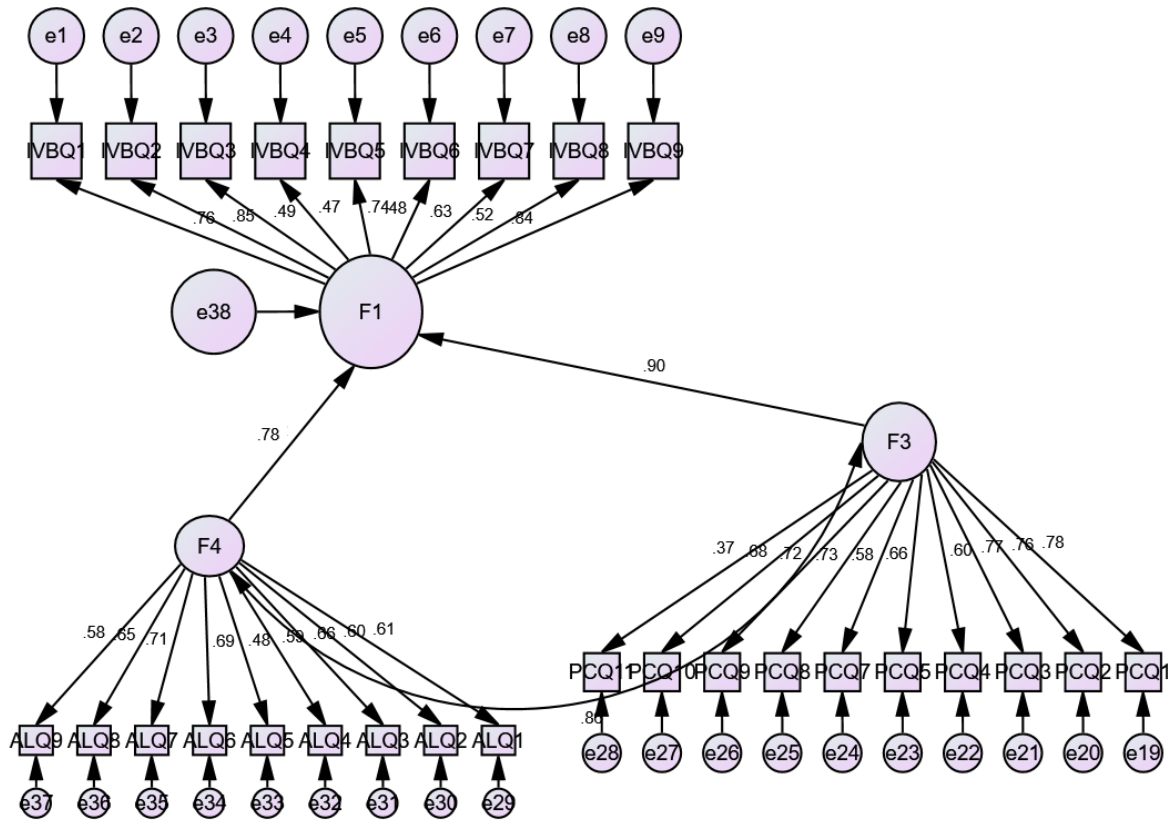
**4.13.2 Psychological Capital has positive and significant impact on employees innovative work behavior.**

A standardized estimate of the inter-relationship of IWB-PC shows beta value is 0.90 and value of  $p = 0.000$  and 16.29 of critical value, that's proves significant association in understudy variables. Rego et al. (2012) in his study focused on psychological capital and exhibited that association in between psychological capital and innovative work behavior of employees at work place. Psychological capital is optimistically related to innovation (Huang & Luthans, 2015). Positive psychological capital performs effective role in forming innovation at work (Zhou & Hoever, 2014). Particularly, studies demonstrate that positive psychological capital enhances the relation among employees and innovative work behavior (Zhou, Hirst, & Shipton, 2012). All four dimensions of psychological capital are favorable to innovation (Tett & Burnett, 2003). As a result literature and results of this study supports H2 and affirm that psychological has significant as well as positive impact on employees innovative work behavior. shown in table below.

**Table 24:** Details of Outcomes Associated to Hypotheses1 and Hypotheses2

Association among Variables	Beta	C.V	P	Conclusion
$\beta_1$ (IWB ← AL)	0.78	13.34	0.00	Supported
$\beta_2$ (IWB← PC)	0.90	16.29	0.00	Supported

*Note:* IWB= Innovative Work Behavior, AL= Authentic Leadership, PC= Psychological Capital.



**Table 25: Overall Measurement Model-Fit**

	CMIN/DF ( $\chi^2/df$ )	RMSEA	GFI	TLI	CFI
Model-Fit	3.517	.052	.912	.945	.955

### 4.13.3 Moderation analysis

#### 1: Moderation analysis of Thriving at work, Authentic Leadership innovative work behavior

Moderation analysis of the study has been completed through using Andrew F. Hayes (2015) technique. Following steps define overall moderation analysis in details. In Step 1 of the moderation model, the regression of psychological capital with innovative work behavior and the moderator, result shows  $b = 0.2346$ ,  $t = (5.2200)$  and  $p = .000$ . Step 2 showed that the regression



of the psychological capital with innovative work behavior on the moderator, thriving at work, value of R square =0.256 and  $p=0.000$ . Which showed that the moderator thriving at work, influencing psychological capital was significant, and analyses revealed that, psychological capital influence innovative work behavior when the thriving at work is high basis of overall results.

Process is an observed variable OLS and logistic regression path analysis modeling tool. It is widely used through the social, business, and health sciences for estimating direct and indirect effects in single and multiple moderator models (parallel and serial), two and three way interactions in moderation models along with simple slopes and regions of significance for probing interactions, and conditional indirect effects in moderated models. Process was written by Andrew F. Hayes (2015). Hayes (2015), macro Process test was conducted and found full moderation in the model. It was found that thriving at work moderates the relationship among psychological capital and innovative work behavior.

## **2: Moderation analysis of Thriving at work, psychological capital and innovative work behavior**

Moderation analysis of the study has been completed through using Andrew F. Hayes (2015) technique. Following steps define overall moderation analysis in details. In Step 1 of the moderation model, the regression of authentic leadership with innovative work behavior and the moderator result shows  $b = 0.2343$ ,  $t = 6.7224$ ,  $p = .000$ . Step 2 showed that the regression of the authentic leadership with innovative work behavior on the moderator, thriving at work, value of R square = .0421 and  $F= 45.1913$ . Step 3 of the moderation process showed that the moderator (thriving at work), influencing authentic leadership was significant and analyses revealed that, authentic leadership influence innovative work behavior when the thriving at work is high basis of overall results. Hayes (2015), test was conducted and found full moderation in the model. It was found that thriving at work moderates the relationship among authentic leadership and innovative work behavior.

**Table 26: Conditional indirect effect**

Predictor (X)	Moderator(V)	Outcome (Y)	B	Boot SE	LLCI	ULCI	Hpy	Result
PC	TAW	IWB	.2346	.0449	.3230	.1462	H3	Supportive
AL	TAW	IWB	.2342	.0349	.1658	.3029	H4	Supportive

#### **4.14 Results**

The central objective of this investigation is to exhibit the impact of authentic leadership and psychological capital on innovative work behavior, additionally moderating impact of thriving on all variables. Therefore results of the study revealed that the relationship amid all variables is significant.

Cerne et al. (2013) verified that perceived authentic leadership had an effective impact on worker innovativeness. Authentic Leadership optimistically influences employees innovative work behavior (Walumbwa et al., 2008). To be more specific, authentic leadership is obtained by studying accurately, keeping the bar high on standards of ethical conducting and encouraging transparency whilst involving with followers. It is by these qualities that authentic leaders earn the trust and respect of their employees, that in due time causes their followers to work more innovatively. (Northhouse, 2012). Sweetman et al. (2011) concluded and said authentic leadership optimistically influences staff innovative work behavior, indirectly and directly. The literature and results support the H1 confirming that authentic leadership has significant impact on innovative work behavior. Rego et al. (2012) in his study focused on psychological capital and exhibited that association in between psychological capital and innovative work behavior of employees at work place. Psychological capital is optimistically related to innovation (Huang & Luthans, 2015). Positive psychological capital performs effective role in forming innovation at work (Cerne et al., 2013). Particularly, studies demonstrate that positive psychological capital enhances the relation among employees and innovative work behavior (Zhou, Hirst, & Shipton, 2012). All four dimensions of psychological capital are favorable to innovation (Tett & Burnett, 2003). As a result literature and results of this study supports H2 and affirm that psychological

has positive impact on employees innovative work behavior, Earlier investigations shown that thriving at work encourage individuals innovative behavior at place of work (Spreitzer et al., 2012). Thriving at work is connected to significant employee results innovative work behaviors (Porath et al., 2012). Thriving at work encourages the innovative work behavior, as it is concluded that employees who thrill and also feel learning at work place are more innovative as compared to those who do not have the chance to experience thriving at work (Spreitzer et al., 2005). Wallace et al. (2013) in their study stated that thriving permits the people to fit in their duties and increase personal development. Thriving is considered as motivation of innovative work behavior (Niessen et al., 2012). Authentic leadership uses thriving as instrument for obtaining innovative outcomes, as it is generative in nature, hence thriving at work plays strengthening role in encouraging innovative ideas (Smith, 2013). Psychological capital, in the presence of thriving result in in more increased innovative behaviors of employees as thriving strengthens the relationship between innovative work behavior and psychological capital (Spreitzer et al., 2012). Wallace et al. (2013) stated that Thriving at work is connected to essential employee result that is strengthening innovative work behaviors at place of work. As a result literature and results of this study supports H3 and affirm that thriving at work moderates the relationship between authentic leadership, psychological capital and innovative work behavior .Hence all outcomes of overhead stated under , in table 4.30.

**Table 27: Results**

Hypotheses	Status
H1: There is positive and significance impact of authentic leadership on employees innovative work behavior	Supported
H2: There is positive and significance impact of Psychological Capital on employees innovative work behavior.	Supported
H3: Thriving at work has strengthen the impact between Authentic Leadership and innovative work behavior.	Supported
H4: Thriving at work has to strengthen the impact between Psychological Capital and innovative work behavior.	Supported

## CHAPTER 5

### CONCLUSION, IMPLICATION, LIMITATION AND FUTURE

#### RECOMMENDATIONS OF RESEARC

##### 5.1. Overview

Central idea of this investigation is to anticipate the connection between overall variables of the study including authentic leadership, psychological capital (hope, optimism, self-efficacy and resilience) , innovative work behavior and thriving at work. Alternatively, past literature indicates that a numerous studies has been examined mentioned variables in different combinations in multiple studies. Rego et al. (2012) in their study stated leadership is considered as crucial element when it comes to innovation within the organization. Psychological capital is optimistically connected with innovation (Huang & Luthans, 2015). Wallace with his colleagues focused on thriving and concluded that Thriving is a cognitive component that assists employees in their personal development and to be fit in their job framework, and produce more innovative results (Wallace et al., 2013).The predicators of specified variables of the study influence on innovative work behavior may respond negatively or positively , regardless of the existing gap is apparent as there is limited number of has been conducted on such conception of “innovative work behavior” along with the combination of the selected independent variables and moderating variable discussed the current study. As indicated by Rego et al. (2012) that innovation is an essential element and innovation process of any organization depend on innovativeness of their employees to bring innovation in their processes, methods and operations. And psychological capital has been determined as the supportive variable which provides additive value to establish employees’ positive behaviors which leads towards innovative work behavior (Walumbwa, Christensen & Hailey, 2011). authentic leaders plays a vital role in stimulating innovation by inspiring their staff to become more innovative and imaginative (Avolio ,Gardner, Walumbwa, Luthans, & May , 2004). However, researches in Pakistan have less emphasis to the proposed combination of variables specifically in Islamabad and Rawalpindi.

In the current section of the study we will focus on overall conclusion of this research, including the summary of the study and its practical and theoretical implications. We will focus on limitation of the study and in addition future recommendation of the current study. That will

provide assistance for further new researchers in order to study such combination of variables to conduct their studies.

## **5.2. Conclusion**

This study is focused on software houses, and innovative work behavior of employees at software houses can be increased. Authentic leadership, psychological capital and thriving at work are the variables enhance innovative work behavior.

As per results hypothesis 1 confirmed that there is positive and significant effect of authentic leadership on employees innovative work behavior. And the outcomes of this study concluded that innovative work behaviour is being inspired by authentic leadership.

The results of hypothesis 2 there is positive and significance impact of psychological capital on employees innovative work behavior. And it is recommended psychological capital and its all four facets comprise positive resources and it plays a positive role in increasing innovative work behavior at work. The results confirmed hypothesis 3 that thriving at work strengthen the relationship among authentic leadership and innovative work behavior. Thriving at work strengthen inter-relationship among authentic Leadership and plays a significant role in increasing innovative work behavior of employees.

The results confirmed hypothesis 4 that thriving at work strengthen the relationship among psychological capital and innovative work behavior. Thriving at work reinforce relationship among psychological capital and plays a significant role in growing innovative work behavior of employees. Therefore the result of this study indicated significant and positive association between all variables and all hypothesis of the study is being accepted.

## **5.3. Discussion**

Software houses belong from IT sector, where everything is about innovation and innovative behavior of employees, so in such critical situation the management is always concerned in maximizing innovation among their employees. This research was conducted to investigate the problems related to innovative work behaviors of employees in IT sector. Main focus of this study was to highlight the factors that bring positive and significant increase in innovative work behaviors of employees, so we focused on the authentic leaders and presence of positive psychological resources and their role in enhancing innovative work behavior. We also focused on variables that strengthen this relationship and we highlighted that thriving at work gives strength to this relationship. The study focused on software houses and the results revealed that

authentic leadership and psychological capital has positive and significant impact of innovative work behavior of employees and also the presence of thriving at work strengthen this relationship.

As per results hypothesis 1 resulted that there is positive and significance effect of Authentic leadership on employees innovative work behavior. According to literature Authentic leadership has been noted as a prominent variable that influences innovative work behaviour at their workforces (Kaufman et al., 2015). So we conclude that innovative work behaviour is being encouraged by authentic leadership.

The results of hypothesis 2 showed that there is positive and significance impact of Psychological Capital on employees innovative work behavior. However this hypothesis was based upon the research work of Huang and Luthans, (2015) that innovative work behaviour can be increased through increasing positive psychological capital at work and Psychological capital has a significant relationship with innovative work behavior (Rego et al., 2012). Therefore it is recommended psychological capital and it's all four facets comprise positive resources and it plays a positive role in increasing innovative work behavior at work.

The results confirmed hypothesis 3 that Thriving at work strengthen the relationship among Authentic Leadership and innovative work behavior. Thriving at work strengthen inter-relationship among Authentic Leadership and plays a significant in increasing innovative work behavior of employees. Innovative behavior starts when a problem is being identified and it need to be encountered with a best solution, so here application and implementation of such thoughts and ideas, that may be fresh or taken (Cianci, Hannah, Roberts, & Tsakumis, 2014).

The results confirmed hypothesis 4 that Thriving at work strengthen the relationship among psychological capital and innovative work behavior. Thriving at work reinforce relationship among psychological capital and plays a significant role in growing innovative work behavior of employees.

Spreitzer (2009) stated that thriving at place of work is be responsible for increase in innovative work behavior among employees. Thriving is the combined application of learning and then growing , so Wallace et al. (2013) exhibited that thriving is an significant factor that promotes innovativeness among employees at place of work. According to Carmeli and Spreitzer (2009), thriving boosts innovation at workplace. The result of this study indicated significant association between all variables and all hypothesis of the study is being accepted. Software houses belong

from IT sector, where everything is about innovation and innovative behavior of employees, so in such critical situation the management is always concerned in maximizing innovation among their employees.

#### **5.4. Research Implication**

This research will be helpful for management of software houses to increase their innovativeness among their middle level employees through learning about the variables that increase innovative work behavior that is authentic leadership, psychological capital and thriving at work. With the help of this study managers at software houses will be able to increase innovation and also overcome different issues faced by employees in their daily routine related to innovation. This research will also assist the managers of software houses in understanding their employees and adoption updated strategies for innovation smoothly. Management will be more concerned in providing psychological capital resources for achieving their goals. The current study will be useful for the researcher aims to examine the innovative work behaviors of employees. As literature exhibits that authentic leadership, psychological capital and thriving at work has significant consequence on innovative work behavior especially in case of IT industry. In IT development of a country software houses plays an important role. As Pakistan is a developing country and its IT sector is on long way of progress, hence in such consequences software houses are very important for growth in this sector. Software houses are noted as constructive and positive for the developmental procedure of IT sector in Pakistan. Therefore this research exhibits the importance of innovative work behavior especially in software houses. This research will be helpful for management of software houses to increase their innovativeness among their middle level employees through learning about the variables that increase innovative work behavior that is authentic leadership, psychological capital and thriving at work. With the help of this study managers at software houses will be able to increase innovation and also overcome different issues faced by employees in their daily routine related to innovation.

#### **5.5. Limitations**

Main restriction of the research is that if respondents may not completely get the sense of the questions or don't answer properly than miscalculation could occur in compiling results. Whereas, sometime respondents fails to understand the questioning technique used by researcher because sometime they are not familiar with variables and terms specifically mentioned in questionnaire. Meanwhile some may escape and ignore participating in the

analysis. Though one main obstacle is lack of time and limited resources. Another limitation was that the study plan was cross-sectional and it was only concentrated on middle level workforces of software houses, future study extended the scope includes all employees of software houses or may include other sectors in IT industry and also use longitudinal approach. This investigation was specifically carried out in Islamabad and Rawalpindi, so outcomes of this examination cannot be universal.

### **5.6. Future Recommendations**

It is very vital for all controls of developing economies, particularly in Pakistan, to take actions in the development of their IT industry in order to develop the potential technology for their growth as IT sector is such an essential sector in the developmental procedure of a nation in almost every way. This is probable by providing assistance in the development of IT sector especially the software houses. For example, progress of software houses will strengthen the IT sector of Pakistan, as this era is totally focused of Information technology so advancement in this sector will provide assistance in all other developmental sectors of Pakistan in way towards not only progress but also success. It is the responsibility of all the software houses to develop their policies and procedure through which employees can get increase their innovation at workplace, appreciation form the organization as well as form their leaders to promote innovation among the employees, they experience psychological capital and sense of thriving at work so that they can increase in their innovation to meet the performance level according to the expectations of the organization. Authentic Leadership, Psychological Capital and Thriving at work enhance Innovative work behaviors, so these variables must be studies in detail for find out more generalized results and to highlight more variable that can enhance innovative work behavior. It is very vital for all controls of developing economies, particularly in Pakistan, to take actions in the development of their IT industry in order to develop the potential technology for their growth. This is probable by providing assistance in the development of IT sector especially the software houses. It is the responsibility of all the software houses to develop their policies and procedure through which employees can get increase their innovation at workplace, appreciation form the organization as well as form their leaders to promote innovation among the employees, they experience psychological capital and sense of thriving at work so that they can increase in their innovation to meet the performance level according to the expectations of the organization.



The theoretical model in the current research will be providing assistance researchers while examining the variables studied in this research. Future researchers can also use the model in different sectors and other geographical areas. The future researchers can also change the research design for further research by following longitudinal research design. There can be addition of more variables in the existing framework such as other leadership styles for further. In future research researcher may also add different moderators and mediators to conduct more in depth study and figure out their outcomes and they may focus other sectors such as information biotechnology. This research focused on middle level employees of Islamabad and Rawalpindi, so for further investigation the top level management can be selected as respondent which might affect the results and their interpretation and current research was prolonged at unlike sectors for more generalize the results.

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## Questionnaire Survey

Dear Madam/Sir,

I am the student of MSBA in NUML Islamabad. Currently I am pursuing my research on “Authentic Leadership, Psychological Capital and Innovative work behavior: Moderating role of Thriving at work in IT industry of Pakistan” In this content questionnaire has been developed to solicit your responses in view of your based experience. I assure you information you provide will be kept confidential and will be used only for academic purpose. Respondents should be rate on five-point Likert scale.

### Instructions

- Please put round circle to appropriate answer according to the scale given below.
- Your patience will be required to complete the questionnaire which will be give us a fair picture of your response.

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<b>Section</b>	<b>One:</b>	<b>Demographics</b>
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#### **1. Your Age**

- 20 years & below
- 21-25 years
- 26-30 years
- 31-35 years
- 36-40 years
- 41 years & above

#### **2. Your Gender**

- Male
- Female

#### **3. Your Total Work Experience**

- 1-5years
- 6-10 years
- 11-15 years

- 16 years & above

#### 4. Your Education

- Intermediate
- Graduation
- Masters
- M.Phil.
- Ph.D

<b>Instructions:</b>  <b>Below are some feelings employees experience at work. Please read each statement carefully and think about how often you experience similar feelings at your workplace.</b>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Innovative Work Behavior</b>					
1. I often pay attention to issues that are no part of my daily work at my work place.	1	2	3	4	5
2. I look for opportunities to improve things at my work place.	1	2	3	4	5
3. I Often look for opportunities to improve learning at my work place.	1	2	3	4	5
4. I feel alert and awake wonder how things can be improved at my work place.	1	2	3	4	5
5. I often explore new products or services at my work place.	1	2	3	4	5
6. I often search out new working methods, techniques or instruments at my work place.	1	2	3	4	5
7. I often generate original solutions for problems at my work place.	1	2	3	4	5
8. I often create new ideas at my work place.	1	2	3	4	5
9. I often attempt to convince people to support an innovative idea at my work place.	1	2	3	4	5
<b>Thriving at Work</b>					
1. I feel alive and vital at my work place.	1	2	3	4	5
2. I have energy and spirit at my work place.	1	2	3	4	5
3. I do not feel very energetic at my work place.	1	2	3	4	5

4. I feel alert and awake at my work place.	1	2	3	4	5
5. I am looking forward to each new day at my work place.	1	2	3	4	5
6. I find myself learning often at my work place.	1	2	3	4	5
7. I continue to learn more as time goes by at my work place.	1	2	3	4	5
8. I see myself continually improving at my work place.	1	2	3	4	5
9. I am not learning at my work place.	1	2	3	4	5
10. I am developing a lot as a person at my work place.	1	2	3	4	5
<b>Psychological capital</b>					
1. I feel confident analyzing a long-term problem to find a solution at my work place.	1	2	3	4	5
2. I feel confident in representing my work area in meetings with management at my work place.	1	2	3	4	5
3. I feel confident helping to set targets/goals in my work area at my work place.	1	2	3	4	5
4. I feel confident contacting people outside the organization (e.g., suppliers, customers) to discuss problems.	1	2	3	4	5
5. If I should find myself in a jam at work, I could think of many ways to get out of it.	1	2	3	4	5
6. At the present time, I am energetically pursuing my work goals at my work place.	1	2	3	4	5
7. There are lots of ways around any problem at my work place.	1	2	3	4	5
8. I can think of many ways to reach my current work goals.	1	2	3	4	5
9. I usually manage difficulties one way or another at work.	1	2	3	4	5
10. When things are uncertain for me at work, I usually expect the best.	1	2	3	4	5

## COMPILANCE REPORT

The range of Skewness and kurtosis require proper explanation	Research objective is changed on page 53
Sampling techniques need to be revisited.	Changing done on page 45
Correlation analysis may be remove from the study and apply some other relevant model for analysis	Changing incorporated
Need to address formatting issues in the overall thesis.	Changing done where ever needed
Moderation analysis needs further elaboration.	Changing done on page 78 , 79
Discussion of result should merge in to discussion part and no need to write them under separate headings	Changing done on page 84
Why study is important for the IT industry gives some reasons.	Changing done 87
Future recommendations should be re-written.	Changing done on page 87
Syntax / Grammatical mistakes must be addressed throughout the thesis.	Changing done
Tables of study may be revised as per APA style.	Changing done
Format should be as per APA style-tables, figures and references.	Changing done