

Koomson, Samuel

## Article

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*Suggested Citation:* Koomson, Samuel (2024) : Contract fulfilment, quality management, ICT adoption, government, and co-worker support: a conceptual framework for student contentment in higher educational institutions, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 11, Iss. 1, pp. 1-17,  
<https://doi.org/10.1080/23311975.2024.2333607>

This Version is available at:

<https://hdl.handle.net/10419/326194>

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## Contract fulfilment, quality management, ICT adoption, government, and co-worker support: a conceptual framework for student contentment in higher educational institutions

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**To cite this article:** Samuel Koomson (2024) Contract fulfilment, quality management, ICT adoption, government, and co-worker support: a conceptual framework for student contentment in higher educational institutions, Cogent Business & Management, 11:1, 2333607, DOI: [10.1080/23311975.2024.2333607](https://doi.org/10.1080/23311975.2024.2333607)

**To link to this article:** <https://doi.org/10.1080/23311975.2024.2333607>



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Published online: 27 Mar 2024.



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# Contract fulfilment, quality management, ICT adoption, government, and co-worker support: a conceptual framework for student contentment in higher educational institutions

Samuel Koomson 

Department of Business Administration, Faculty of Management Studies, University of Professional Studies, Accra, Ghana

## ABSTRACT

This paper examines the direct effect of employees' psychological contract fulfilment (PCF) on student contentment (CON), exploring the mediating roles of total quality management (TQM) and information communication technology (ICT) adoption, and moderating roles of government support (GOS) and co-worker support (COS) in higher educational institutions (HEIs) worldwide. The paper develops a conceptual framework along with postulations by combining both empirical and theoretical literature in multidisciplinary fields. This paper finds and proposes that PCF will be positively related to CON, and this positive relationship will be positively mediated by TQM and ICT adoption jointly and independently. Additionally, GOS and COS will positively moderate between PCF and CON. This paper lays the foundation for upcoming researchers to empirically test the proposed conceptual framework in different educational settings across the globe. The conceptual research bridges the gap between educational management literature and other fields such as quality management, information systems, and public administration. It helps HEIs prioritise initiatives that enhance the overall well-being of their staff and faculty. This puts them in a better position to satisfy students. This advances Sustainable Development Goal 4, which aims to guarantee inclusive and fair quality education and encourage endless possibilities for learning for every student.

## IMPACT STATEMENT

Education is a crucial component of society, and the satisfaction of both educators and students can have broader societal implications. This research highlights the need for policies or practices that support educators in meeting their psychological needs, ultimately benefiting society at large. For instance, this paper will be of interest to parents who want the best possible educational experience for their children. The media often covers topics related to education and workplace dynamics. This study will attract public attention and become part of broader discussions on education reform. Policymakers should consider initiatives that support educators in meeting their needs. This information could be applicable to other professions as well, emphasizing the significance of meeting employees' psychological needs.

## ARTICLE HISTORY

Received 20 January 2022  
Revised 7 February 2024  
Accepted 15 March 2024

## KEYWORDS

Higher educational institutions; employer–employee relations; continuous improvement; government support; co-worker support; customer satisfaction; information technology; interdisciplinary; conceptual framework

## REVIEWING EDITOR

Huifen (Helen) Cai,  
Middlesex University  
Business School, United  
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## SUBJECTS

Information &  
Communication  
Technology (ICT); Work &  
Organizational  
Psychology; Public  
Finance

## 1. Introduction

The COVID-19 pandemic has progressively turned teaching or working into an online activity, and this change in workspace has changed the work methods and processes for employees in the higher education sector, such that some employees work from home while others have adopted a rotation system where they receive minimum supervision at work (McPhail et al., 2024; Turkmenoğlu et al., 2020). Will these employees, who work from home or adopt a rotation system where they receive minimum supervision at work, still contribute to organisational goals? As rational beings, employees will still contribute to organisational goals irrespective of the unfavourable external pressure from the COVID-19 pandemic

**CONTACT** Samuel Koomson ✉ [skoomson68@gmail.com](mailto:skoomson68@gmail.com), [samuel.koomson@upsamail.edu.gh](mailto:samuel.koomson@upsamail.edu.gh) 📍 Department of Business Administration, Faculty of Management Studies, University of Professional Studies, Accra, Ghana

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when they perceive that the organisation, over the past years, has had their interests at heart. This assertion is explained by the popular phrase 'one good turn deserves another' or 'you scratch my back, I scratch yours' (Yamao, 2024).

In effect, if the organisation, over the past years, has failed to fulfil the expectations of its employees, they will not be willing to go the extra mile for the organisation when confronted with the COVID-19 pandemic. The degree to which a company meets its obligations to an employee from the employee's vantage point is referred to as psychological contract fulfilment (PCF). An employee whose psychological contract is fulfilled engages in behaviours and activities that benefit his or her organisation, especially during crises.

When an employee who works in a higher educational institution (HEI) perceives that his or her psychological contract has been fulfilled, he or she becomes happy and undertakes activities that enhance student contentment (CON) for the benefit of his or her institution (Yamao, 2024), suggesting a possible positive relationship between employee PCF and CON. CON refers to the overall sense of satisfaction, well-being, and fulfilment experienced by students in a HEI setting (Koomson, 2022a). Koomson (2021a) suggests that cutting-edge innovations in organisations are frequently attributed to contented personnel. Consequently, employee PCF can be a cornerstone towards improving COM in HEIs. Yet, how PCF impacts CON has gone unnoticed. In response, the first research question of this paper reads: How does employee PCF influence CON?

An argument is put forward that, the paybacks of PCF on CON can be facilitated by adopting an innovative approach to management which will improve the work methods and processes in the HEI's setting, referred to as total quality management (TQM). Adopting and executing this innovative continuous improvement strategy will improve work methods and processes in HEIs to foster CON. However, the existing body of knowledge lacks a studies that show how TQM links PCF to CON, although the mediating potential of TQM is acknowledged in existing studies (e.g. Acquah et al., 2023; Fikri et al., 2022; Koomson, 2022a, Koomson, 2021b). To fill this void, the second research question of this paper reads: How does employee PCF affect TQM to influence CON?

Similarly, how information and communication technology (ICT) adoption connects employee PCF to CON remains unaddressed. ICT adoption refers to the process through which educators in HEIs integrate and make use of information and communication technology tools and systems in their operations, activities, or daily lives (Camngca et al., 2024; Koomson, 2022a). Although existing research (e.g. Jalil et al., 2022; Koomson, 2022a; Koomson, 2021b; Susilawati et al., 2023) demonstrates the mediating possibility of ICT adoption, there is a lack of knowledge regarding how this concept expedites the employee PCF-CON relationship. To fill this void, the third and fourth research question of this paper reads: How does employee PCF affect ICT adoption to influence CON? How does employee PCF affect TQM and ICT adoption, jointly, to influence CON?

Recognizing that the HEIs are open systems (Ahinful et al., 2023), contextual idiosyncrasies, such as government and co-worker support, may influence their ability to satisfy students. Government support (GOS) refers to the various ways in which a government provides assistance, aid, or resources to HEIs within a country (Koomson, 2022b; Park et al., 2024). Although GOS aids in achieving employee PCF (Nisar & Siddiqui, 2019; Saltzstein et al., 2001) and CON (Martirosyan, 2015; Wong & Chapman, 2023), how it moderates between employee PCF and CON is yet to be understood. Despite the acknowledged moderating power of GOS in other studies (e.g. Farzanegan & Gholipour, 2023; Sharma et al., 2023; Yang & Liu, 2023), its moderating influence on the employee PCF-CON association is missing. Under this perspective, this study argues that the direct positive link between employee PCF and CON may be strengthened under massive GOS but weakened when GOS is low for HEIs. This paves the way for the fifth research question, which reads: What is the moderating effect of GOS between employee PCF and CON?

Co-worker support (COS) refers to the assistance, encouragement, collaboration, and positive interactions among individuals working together within the same HEI (Ahmad et al., 2020; Koomson, 2022a). Recognizing that COS improves employee PCF (Küçük, 2022; Nguyen & Tuan, 2022) and CON (Lauritzen et al., 2022; Szromek & Wolniak, 2020), its moderating impact on the PCF-CON linkage is missing in the literature. Although the moderating influence of COS has been recognised in previous studies (e.g. Chong et al., 2023; Ngo et al., 2022; Zhang et al., 2023), its impact on the connection between employee PCF-CON has not been addressed.

To this extent, this research argues that the direct positive link between PCF and CON may be reinforced in a working context where an educator or employee receives massive assistance and encouragement from his or her colleagues but weakened under little co-worker support. Consequently, the sixth research question reads: What is the moderating role of COS between employee PCF and CON in HEIs?

HEIs are universities, colleges, or tertiary education institutions that provide post-secondary education beyond the secondary school level (Read et al., 2023). These institutions offer a wide range of academic and professional programs, including undergraduate and graduate degrees, diplomas, certificates, and various other forms of specialized training (Banker & Manning, 2023). For students, HEIs are expected to provide quality education and academic programmes (Jones, 2023). This leads to the acquisition of knowledge, skills, and competencies in various fields of study. Students expect HEIs to deliver effective and engaging teaching methods to facilitate learning, critical thinking, and problem-solving skills (Tichavakunda, 2024). They are also expected to foster the personal, social, and intellectual development of students and prepare them for successful careers and responsible citizenship (Hagler et al., 2024). They are supposed to prepare students to thrive in a globalized world by offering international perspectives, opportunities for study abroad, and fostering a diverse and inclusive campus environment (Sk & Halder, 2024).

For educators (faculty and staff), HEIs are expected to provide opportunities for their professional development to ensure the delivery of high-quality education and cutting-edge research (Olaskoaga-Larrauri et al., 2023). Society expects HEIs to facilitate the transfer of knowledge from the academic environment to society through collaborations with industry, government, and other sectors (Ashour, 2024). Society also expects HEIs to instil ethical values, integrity, and a sense of social responsibility in students and faculty and promote ethical conduct in research and professional activities (Adhikari & Shrestha, 2023).

The purpose of this paper is to develop a conceptual framework to show how the link between employee PCF and CON may flourish by exploring the mediating roles of TQM and ICT adoption and the moderating roles of GOS and COS. In achieving this aim, this research performed a systematic literature review and used the 'model' approach suggested by Jaakkola (2020, p. 24) to develop postulations that provide foundations for relevant empirical studies in the future. The literature reviewed comprises the results of investigations that are pertinent and interconnected with each of the research inquiries outlined. An empirical review summary table, describing how the proposed postulation were elicited from the literature, was presented afterwards. The proposed postulations were viewed through the lenses of social exchange, affective events, and general contingency theories.

This study provides benefits to on the interplay between employee perceptions of fulfilment and CON, providing insights into the organisational dynamics within HEIs. By identifying factors that influence CON, the study contributes to enhancing the overall student experience on campus. Findings from the study can inform institutional policies and practices aimed at fostering a positive work environment for employees, which in turn can contribute to a more supportive and engaging educational environment for students. Positive employee experiences, including perceptions of PCF, may contribute to higher levels of faculty and staff retention. This stability can, in turn, positively impact student retention rates and academic success. Understanding the factors that influence faculty and staff fulfilment can lead to improvements in teaching quality, academic advising, mentoring, and support services, ultimately benefiting students' academic and personal development. Higher levels of employee fulfilment can enhance the reputation of HEIs, making them more attractive to prospective students, faculty, and staff.

## 2. Literature review

### 2.1. Theoretical foundations

#### 2.1.1. Social exchange theory

The social exchange theory posits that favours are performed with the expectation of future reciprocation (Cropanzano et al., 2017). The social exchange theory (Blau, 1964; Yamao, 2024) explains the potential beneficial effect of employee PCF on CON. When an employee who works in a HEI perceives that his or her psychological contract has been fulfilled, he or she becomes happy and undertakes activities that enhance CON for the benefit of his or her institution. On the contrary, when he or she perceives that his

or her psychological contract has been breached, he or she becomes angry and undertakes activities that impede CON at the expense of his or her institution.

### **2.1.2. Affective events theory**

Weiss and Cropanzano (1996) affective events theory focuses on the formation, outcomes, and origins of emotional experiences related to events in the workplace. These occurrences commonly happen to individuals in professional settings, and these individuals often react emotionally to such incidents. The emotional experiences of the events have a direct influence on the attitudes and behaviours of individuals.

The theory is useful in elucidating the possible mediating impact of TQM in the link between employee PCF and CON. This theory assumes that a fulfilled employee would be more likely to show positive emotional events at the workplace, such as feeling happy, committed, and engaged. These positive emotional events would increase his or her willingness to partake in the implementation of the TQM strategy to eventually improve CON. The reverse of this is true.

The affective events theory (Weiss & Cropanzano, 1996) is also handy in explaining the mediating influence of ICT adoption in the link between employee PCF and CON. According to the theory, a fulfilled employee would be more likely to show positive emotional events at work. These positive emotional events would increase his or her willingness to adopt information and communication technology to foster CON for the well-being of the HEI and vice versa.

### **2.1.3. General contingency theory**

The diverse philosophical systems in management can be consolidated into a unified framework known as the general contingency theory. The theory takes into account contextual elements and aims to bridge the divide between theory and the implementation of management (Luthans & Stewart, 1977). This study employs the general contingency theory to argue for a potential moderating role of GOS on the direct relationship between employee PCF and CON, such that the direct positive linkage between employee PCF and CON may be strengthened under massive government support but weakened when GOS to HEIs is low. The theory assumes that a HEI's ability to achieve CON depends on the interplay between the relationship it has established with employees (employee PCF) and the support it receives from the government (GOS) (Miller, 1981). This study considers GOS as a contextual element (moderator) that can potentially encourage or impair the employee PCF-CON association in HEIs.

The general contingency theory (Luthans & Stewart, 1977) is also suitable for illuminating the possible moderating role of COS on the direct relationship between employee PCF and CON, such that the direct positive relationship between employee PCF and CON is reinforced in a working context where an employee receives massive assistance and encouragement from his or her colleagues but weakened when COS is low. Here, the theory assumes that an institution's ability to achieve CON is contingent on the interaction between the relationship it has established with employees (employee PCF) and the assistance and encouragement the employee receives from his or her colleagues at the workplace (COS) (Miller, 1981). In so doing, this study considers COS as a contextual element (moderator) that can potentially strengthen or jeopardize the employee PCF-CON connection in HEIs.

## **2.2. Development of postulations**

### **2.2.1. Psychological contract fulfilment and student contentment**

Employee PCF represents the degree to which an organisation meets its obligations to an employee from the employee's vantage, and it serves to build upon the social exchange element, resulting in positive employee behaviours (Karagonlar et al., 2016). Following this, earlier researchers, such as Akhigbe and Yakubu (2021), found that employee PCF improves citizenship behaviour in public universities. Soundarya Priya et al. (2024) also show that PCF encourages safe behaviour and climate in the construction sector.

On the other hand, Koomson and Opoku Mensah (2020) find that psychological contract breach (which represents the absence of PCF) reduced medical doctors' tendency to show citizenship behaviour. Opoku Mensah and Koomson (2021) disclose that psychological contract breaches lead to low job



satisfaction among physicians. Koomson (2020) reveals that psychological contract breaches decrease physicians' commitment to their healthcare organisations. Abdalla et al. (2021) show that psychological contract breaches cause employees to show distrust towards their organisation.

As a result, this study argues that employee PCF may be a cornerstone towards achieving CON in HEIs. CON refers to the overall sense of satisfaction, well-being, and fulfilment experienced by students in an HEI setting (Koomson, 2022a). It encompasses a variety of factors that contribute to a positive and enriching student experience, both academically and personally (Makubuya et al., 2020). CON goes beyond academic achievement and involves the broader aspects of a student's life within the educational environment (Kaur et al., 2021).

Students feel content when they find the academic curriculum engaging, relevant, and appropriately challenging (Schussler, 2009). Effective teaching methods, clear communication of course expectations, and opportunities for intellectual growth contribute to academic satisfaction (Hativa, 2001). A positive social environment, supportive relationships with peers and educators, and a sense of belonging contribute to students' emotional well-being. Feeling emotionally supported enhances overall contentment (Lester & Cross, 2015). Involvement in extracurricular activities, clubs, or sports can contribute to student contentment by providing opportunities for personal development, building relationships, and fostering a sense of community (King et al., 2021).

Adequate and accessible facilities, as well as resources such as libraries, laboratories, and technology, contribute to a positive learning environment and overall student contentment (Hanaysha et al., 2023). Constructive feedback on academic performance, recognition of achievements, and acknowledgment of effort contribute to a sense of accomplishment and contentment among students (Wentzel & Wigfield, 1998). A campus culture that promotes inclusivity and values diversity contributes to a sense of acceptance and belonging among students, enhancing overall contentment (Hussain & Jones, 2021). Access to support services, such as counselling, career guidance, and academic advising, can contribute to the well-being of students and positively impact their overall contentment (Grant-Vallone et al., 2003).

A contented student is more likely to endorse the HEI to their acquaintances and relatives (Lehmann, 2021). The probability of him or her withdrawing or transferring to a different HEI is reduced (Gibbs, 2017). Enhancing CON is therefore crucial to the survival and competitive advantage of every HEI (Sheng et al., 2024; Weerasinghe et al., 2017). From the foregoing, this paper proposes that employee PCF has a positive association with CON, as revealed in the first postulation, which reads:

*P1. Employee PCF is positively related to CON.*

### ***2.2.2. Mediating roles of total quality management and information communication technology adoption between psychological contract fulfilment and student contentment***

In the context of HEIs, TQM is a comprehensive management philosophy that aims to continuously improve the provision and functioning of educational services. It aims to meet the needs of students and other stakeholders in a more cost-effective, efficient, and convenient manner, with the collaboration of all individuals working under the guidance of top management (Ahinful et al., 2023).

In the literature, TQM has improved the quality of higher education (Yusuf, 2023), the performance of academic education (Bahia et al., 2023), and student satisfaction (Idris, 2015; Park & Kim, 2023). On the other hand, fulfilled expectations (i.e. PCF) encourage the adoption of quality enhancement applications (Agarwal et al., 2012; Battisti et al., 2008; Kaushal & Goyal, 2021; Pepur et al., 2013). Acknowledging that TQM has functioned as a mediator in previous studies (Acquah et al., 2023; Fikri et al., 2022; Imran et al., 2018; Koomson, 2022a; Koomson, 2022b; Kustono, 2020; Mehralian et al., 2016), this research expects TQM to mediate the employee PCF-CON relationship.

ICT adoption refers to the process through which educators in HEIs integrate and make use of information and communication technology tools and systems in their operations, activities, or daily lives (Camngca et al., 2024; Koomson, 2022a). This adoption involves acquiring, implementing, and utilizing information and communication technology tools to enhance communication, streamline processes, and achieve specific goals or objectives (Aceto et al., 2018; Koomson, 2022b; Nassereddine & Khang, 2024). ICT adoption encompasses a wide range of technologies, including hardware (such as computers, smartphones, and servers), software (applications and programs), networks (internet and intranet infrastructure),

and other digital technologies (Upadhyaya et al., 2002). The adoption process involves not only obtaining the necessary technological tools but also incorporating them effectively into existing workflows or life-styles (Lewy, 2015).

In the literature, technology adoption has been shown to improve student satisfaction (Alyoussef & Omer, 2023; Dubey & Sahu, 2021; Dubey & Sahu, 2022), while employee PCF encourages technology adoption (e.g. Mao et al., 2019). At the same time, ICT adoption has played the role of a mediator in existing studies (Dutot et al., 2021; Imran et al., 2019; Jalil et al., 2022; Koomson, 2022a; Koomson, 2022b; Khaddam et al., 2020; MahbubulHye et al., 2020; Nadeem et al., 2018; Susilawati et al., 2023). Therefore, this study envisages that ICT adoption will function as a mediator in the employee PCF-CON association.

To guarantee the successful implementation of CON strategies, employee PCF, TQM applications, and ICT adoption are all required in every process of the HEI's business model. Without these three activities, the quest to achieve and continuously improve CON will be difficult to accomplish. Consequently, this paper expects TQM and ICT adoption to positively mediate between employee PCF and CON, as revealed in the second, third, and fourth postulations, which read:

P2. TQM will positively mediate the link between employee PCF and CON.

P3. ICT adoption will positively mediate the link between employee PCF and CON.

P4. TQM and ICT adoption will jointly and positively mediate between PCF and CON.

### ***2.2.3. Moderating roles of government support and co-worker support between psychological contract fulfilment and student contentment***

GOS refers to the various ways in which a government provides assistance, aid, or resources to HEIs within a country (Koomson, 2022b; Park et al., 2024). This support is often implemented through policies, programs, regulations, and financial allocations aimed at achieving specific social, economic, or developmental goals to foster quality education (Lakamudi et al., 2024). By so doing, it advances Sustainable Development Goal 4, which aims to guarantee inclusive and fair quality education and encourage endless possibilities for learning for student (United Nations, 2015).

Some common forms of GOV include financial assistance, such as paying of salaries to faculty and administrators (Dynarski & Scott-Clayton, 2013), social welfare programs, such as the provision of health care services and housing support to educators (Gupta et al., 2001), infrastructure investment, such as the construction and maintenance of roads and schools to improve quality of life for both educators and students (Vincent, 2012), research and development funding, such as book and research grants to faculty and administrators (Ulferts et al., 2021), and sound regulatory policies, such as streamlining bureaucratic processes, reducing regulatory barriers, and ensuring fair competition among HEIs within a specific setting (Radaelli & De Francesco, 2013).

In the literature, GOS aids in achieving employee PCF (Nisar & Siddiqui, 2019; Saltzstein et al., 2001) and CON (Martirosyan, 2015; Wong & Chapman, 2023). Furthermore, there are acknowledgements for the moderating effect of GOS in other studies (Anwar et al., 2020; Farzanegan & Gholipour, 2023; Ishtiaq et al., 2020; Kim et al., 2018; Saberi & Hamdan, 2019; Seow et al., 2021; Sharma et al., 2023; Xia et al., 2020; Yang & Liu, 2023). Under this perspective, this study argues that the direct positive link between employee PCF and CON may be strengthened under massive GOS but weakened when GOS is low for HEIs. To enhance productivity and proficiency in HEIs in attaining and consistently enhancing CON, GOS is of utmost importance. This paves the way for the fifth postulation, which reads:

P5. GOS will positively moderate the link between employee PCF and CON.

### ***2.2.4. Moderating role of co-worker support between psychological contract fulfilment and student contentment***

COS refers to the assistance, encouragement, collaboration, and positive interactions among individuals working together within the same HEI (Ahmad et al., 2020; Koomson, 2022a). It involves colleagues providing each other with emotional, practical, or professional assistance to foster a positive work environment, enhance job satisfaction, and contribute to overall team success (Herawati et al., 2023). COS is an



essential aspect of HEIs workplace dynamics and can manifest in various forms. Colleagues offer empathy, understanding, and encouragement during challenging times or stressful situations (Mutsuddi & Sinha, 2023). This may involve providing a listening ear, offering words of encouragement, or expressing solidarity.

COS is often evident through collaborative efforts on projects or tasks (Tenakwah et al., 2023). Team members work together, share ideas, and contribute to achieving common goals, fostering a sense of camaraderie. Colleagues share information, expertise, and insights with one another, promoting continuous learning and professional development within the team (Dutta & Rangnekar, 2023). This can contribute to improved individual, collective, and institutional performance to boost the good name and ranking of the HEI. When challenges arise, co-workers may collaborate to find solutions (Ojeleye et al., 2023). This involves a willingness to assist each other in overcoming obstacles, brainstorming ideas, and working together to address issues that impact the team. Acknowledging and appreciating the efforts and contributions of co-workers is a form of support (Rajani, 2023). Recognizing achievements, expressing gratitude, and celebrating successes contribute to a positive and motivating work environment.

Co-workers may offer help with tasks or responsibilities, especially during busy periods (Han et al., 2023). This assistance helps distribute the workload more evenly and ensures that team members can meet deadlines and deliver high-quality work. Providing constructive feedback in a supportive manner is crucial for professional growth. Colleagues who offer constructive criticism with the intention of helping each other improve contribute to a culture of continuous improvement (Dutta et al., 2023). COS extends to understanding and respecting each other's work-life balance (Uddin et al., 2023). This can involve accommodating personal responsibilities and providing flexibility when needed.

In the literature, COS has been shown to improve employee PCF (Küçük, 2022; Nguyen & Tuan, 2022) and CON (Lauritzen et al., 2022; Szromek & Wolniak, 2020). In addition, the moderating influence of COS has been recognised in previous studies (Ahmad et al., 2019; Chong et al., 2023; Martínez Corts et al., 2011; Ngo et al., 2022; Rehman et al., 2019; Robertson et al., 2016; Toker et al., 2015; Zhang et al., 2023). To this extent, this research argues that the direct positive link between employee PCF and CON may be reinforced in a working context where a staff or faculty member of a HEI receives massive assistance and encouragement from his or her colleagues but weakened under little co-worker support. This is shown in the sixth postulation of this conceptual piece, which reads:

*P6. COS will positively moderate the connection between employee PCF and CON. The summary of the empirical review is shown in Table 1.*

### 2.3. Conceptual framework

The conceptual framework originating from the above discussion is demonstrated in Figure 1. The postulations are symbolised as *P1*, *P2*, *P3*, *P4*, *P5* and *P6*. The postulations explaining the positive effect of employee PCF on CON (*P1*), the positive mediating effects of TQM (*P2*), ICT adoption (*P3*), and TQM plus ICT adoption (*P4*) between employee PCF and CON are symbolised by solid lines; while the dotted lines symbolise the positive moderating effect of GOS (*P5*) and COS (*P6*) on the positive direct link between employee PCF on CON.

Here, (*P1*) explains how employee PCF improves CON. Likewise, (*P2*) explains how employee PC encourages TQM application to achieve CON. Similarly, (*P3*) explains employee PCF stimulates ICT adoption to achieve CON. In a similar fashion, (*P4*) explains how employee PCF strengthens TQM and ICT adoption, jointly, to achieve CON. The remaining postulations explicate the contextual factors (GOS, COS) under which the employee PCF–CON association can either be reinforced (high GOS and COS) or weakened (low GOS and COS).

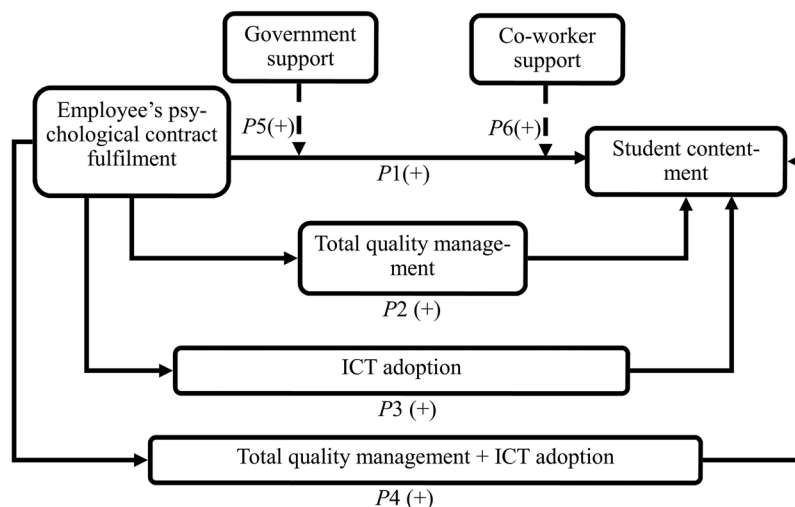
## 3. Methods

Each research endeavour should commence with a comprehensive analysis of the pertinent existing literature. When formulating research questions to broaden the scope of a study, it is beneficial for a researcher to comprehend the boundaries of the topic under investigation. After conducting a thorough study of existing literature, the writer of this paper develops a research model by integrating empirical and theoretical literature from several fields. The writer adopts the 'model' technique, as suggested by

**Table 1.** Summary of empirical review.

Relationships	Authors	Findings
Why employee PCF may positively impact CON.	Soundarya Priya et al. (2024)	PCF encourages safe behaviour and climate in the construction sector.
	Akhigbe and Yakubu (2021)	Employee PCF improves citizenship behaviour in public universities.
	Koomson and Opoku Mensah (2020)	Psychological contract breach (which represents the absence of PCF) reduces medical doctors' tendency to show citizenship behaviour.
	Opoku Mensah and Koomson (2021)	Psychological contract breaches lead to low job satisfaction among physicians.
	Koomson (2020)	Psychological contract breaches decrease physicians' commitment to their healthcare organisations.
	Abdalla et al. (2021)	Psychological contract breaches cause employees to show distrust towards their organisation.
Why TQM may mediate between employee PCF and CON.	Koomson (2021a)	Cutting-edge innovations in organisations are frequently attributed to contented personnel.
	Park and Kim (2023) and Idris (2015)	TQM has improved student satisfaction.
	Yusuf (2023)	TQM has improved the quality of higher education
	Bahia et al. (2023)	TQM has improved the performance of academic education
	Kaushal and Goyal (2021), Pepur et al. (2013), Agarwal et al. (2012), and Battisti et al. (2008)	Fulfilled expectations (i.e. PCF) encourage the adoption of quality enhancement applications
	Koomson (2022a, 2022b), Acquah et al. (2023), Fikri et al. (2022) Kustono (2020), Mehralian et al. (2016), and Imran et al. (2018)	The authors acknowledge the mediating role of TQM in their studies.
Why ICT adoption may positively intervene between employee PCF and CON.	Mao et al. (2019)	Employee PCF encourages technology adoption.
	Alyoussef and Omer (2023), Dubey and Sahu (2021), and Dubey and Sahu (2022).	Technology adoption improves student satisfaction.
	Susilawati et al. (2023), Koomson (2022a), Koomson (2022b), Jalil et al. (2022), Dutot et al. (2021), Khaddam et al. (2020), MahbulHye et al. (2020), Imran et al. (2019), and Nadeem et al. (2018)	The authors acknowledge the mediating role of ICT adoption in their studies.
Why GOS may moderate between employee PCF and CON.	Nisar and Siddiqui (2019), and Saltzstein et al. (2001)	The authors show that GOS aids in achieving employee PCF.
	Wong and Chapman (2023), and Martirosyan (2015).	The authors show find that GOS aids in attaining employee CON.
	Yang and Liu (2023), Sharma et al. (2023), Farzanegan and Gholipour (2023), Seow et al. (2021), Ishtiaq et al. (2020), Anwar et al. (2020), Xia et al. (2020), Saberi and Hamdan (2019), and Kim et al. (2018)	The authors acknowledge the moderating role of GOS in their studies.
Why COS may moderate between employee PCF and CON.	Küçük (2022), and Nguyen and Tuan (2022)	The researchers demonstrate that COS improves employee PCF.
	Lauritzen et al. (2022), and Szromek and Wolniak (2020)	The researchers demonstrate that COS improves employee CON.
	Chong et al. (2023), Zhang et al. (2023), Ngo et al. (2022), Ahmad et al. (2019), Rehman et al. (2019), Robertson et al. (2016), Toket et al. (2015), and Martínez Corts et al. (2011)	The authors acknowledge the moderating role of COS in their studies.

Source: Table by Author.

**Figure 1.** Conceptual model.

Jaakkola (2020, p.24), and used in existing research (Ahinful et al., 2023; Azadda et al., 2023; Koomson, 2022a; Konadu et al., 2023; Koomson, 2022b), to produce a conceptual paper.

Conceptual papers normally suggest novel connections between constructs, aiming to develop coherent and comprehensive explanations of these links (Gilson & Goldberg, 2015). Additionally, they offer recommendations for future researchers to empirically validate these propositions (Koomson, 2022a). Therefore, evidence is obtained from previous inquiries rather than from primary data (Jaakkola, 2020). According to Huang and Rust (2018), this is achieved by employing a specific sort of logical deduction based on several disciplines, real-life instances, or theories. The theories employed in this study are Blau's (1964) social exchange theory, Weiss and Cropanzano (1996) theory of affective events, and Luthans and Stewart (1977) theory of general contingency.

The empirical literature reviewed comprises study findings that are pertinent and interconnected with each of the research inquiries outlined in this conceptual paper. To query the Scopus, Google Scholar, Science Direct, Web of Science, and Directory of Open Access Journals academic databases for a list of documents, keywords were employed. The used terms were 'psychological contract fulfilment,' 'student satisfaction,' 'student contentment,' 'technology adoption,' 'ICT adoption,' 'service quality,' 'total quality management,' 'continuous improvement,' 'co-worker support,' and 'government support.'

Two or three mixes of key terms were used during the search procedure. The two mixes employed were 'psychological contract fulfilment and student satisfaction,' 'psychological contract fulfilment and student contentment,' 'psychological contract fulfilment and service quality,' 'psychological contract fulfilment and total quality management,' 'service quality and student satisfaction,' 'service quality and student contentment,' 'total quality and student satisfaction,' 'total quality and student contentment,' 'government support and psychological contract fulfilment,' 'government support and student satisfaction,' and 'government support and student contentment.'

The three mixes employed were 'psychological contract fulfilment, total quality management, and student contentment,' 'psychological contract fulfilment, total quality management, and student satisfaction,' 'psychological contract fulfilment, ICT adoption, and student contentment,' 'psychological contract fulfilment, ICT adoption, and student satisfaction,' 'government support, psychological contract fulfilment, and student satisfaction,' 'government support, psychological contract fulfilment, and student contentment,' 'co-worker support, psychological contract fulfilment, and student satisfaction,' and 'co-worker support, psychological contract fulfilment, and student contentment.' Only English-language academic journals were considered for inclusion.

## 4. Discussion

This paper finds and proposes that PCF will be positively related to CON, and this positive relationship will be positively mediated by TQM and ICT adoption jointly and independently. Additionally, GOS and COS will positively moderate between PCF and CON. Based on these findings and propositions, this paper contributes in various ways. In the first place, it integrates and lengthens the literature on four independent topics of study: (1) PCF, (2) TQM, (3) ICT adoption, and (4) GOS and COS; the first being an employer–employee relations tool, the second being a strategic management tool, the third being an ICT tool, and the fourth being a motivational tool. Thus, this present study surpasses a single discipline, making it interdisciplinary. Secondly, to the best of my knowledge, this is the only study that addresses the indirect effects of TQM and ICT adoption on the direct relationship between employee PCF and CON, dwelling on the social exchange theory (Blau, 1964) and affective events theory (Weiss & Cropanzano, 1996) as theoretical foundations. Thirdly, as far as the writer of this paper is aware, this study is unique because it illustrates the contextual factors (GOS, COS) under which the employee PCF–CON association can be enhanced, with theoretical support from social exchange theory (Blau, 1964) and general contingency theory (Luthans & Stewart, 1977).

Upcoming researchers may empirically test this conceptual framework and postulations in different HEIs, including universities, colleges, or other tertiary education institutions. Specifically, they may empirical test how employee PCF affects CON, since there is a dearth of literature in this area. Furthermore, they could examine how TQM and ICT adoption will independently and jointly mediate between employee PCF and CON,

since earlier researchers have found empirical support for the mediating roles of these two variables on dissimilar direct paths (TQM (Acquah et al., 2023; Fikri et al., 2022; Imran et al., 2018; Koomson, 2022a; Koomson, 2022b; Kustono, 2020; Mehralian et al., 2016), ICT adoption (Dutot et al., 2021; Imran et al., 2019; Jalil et al., 2022; Khaddam et al., 2020; Koomson, 2022a; Koomson, 2022b; MahbubulHye et al., 2020; Nadeem et al., 2018; Susilawati et al., 2023)).

Additionally, future researchers may empirically test the contextual factors (GOS, COS) under which the employee PCF–CON relationship can be strengthened (high GOS, COS) or weakened (low GOS, COS), following the findings of closely-related existing studies on GOS (Anwar et al., 2020; Farzanegan & Gholipour, 2023; Ishtiaq et al., 2020; Kim et al., 2018; Martirosyan, 2015; Nisar & Siddiqui, 2019; Saberi & Hamdan, 2019; Saltzstein et al., 2001; Seow et al., 2021; Sharma et al., 2023; Wong & Chapman, 2023; Xia et al., 2020; Yang & Liu, 2023), as well as COS (Ahmad et al., 2019; Chong et al., 2023; Küçük, 2022; Lauritzen et al., 2022; Martínez Corts et al., 2011; Ngo et al., 2022; Nguyen & Tuan, 2022; Robertson et al., 2016; Rehman et al., 2019; Szromek & Wolniak, 2020; Toker et al., 2015; Zhang et al., 2023).

## 5. Practical implications

Understanding the impact of employee PCF on CON can help HEIs prioritise initiatives that enhance the overall well-being of their staff. This could involve investing in programmes that improve job security, recognition, and opportunities for professional development. By recognising the link between employee PCF and CON, HEIs can appreciate the importance of fostering positive work environments for faculty and staff. This can indirectly contribute to improved student satisfaction and academic performance. The study's findings regarding the mediating role of TQM can highlight the importance of implementing quality management practices within HEIs. This could involve establishing quality standards, continuous improvement processes, and performance metrics to ensure efficient operations and high-quality educational services.

Identifying the mediation effect of ICT adoption suggests that integrating technology into educational processes can enhance employee PCF and ultimately contribute to CON. HEIs may need to continuously invest in ICT infrastructure, provide continuous training to staff, and support innovative uses of technology in teaching and administration. The study's findings on the moderating effect of GOS underscore the role of policymakers in creating an enabling environment for HEIs. Governments may consider policies that incentivize institutions to prioritise employee fulfilment, invest in TQM practices, and adopt ICT solutions.

Recognising the moderating role of COS highlights the importance of fostering a supportive organisational culture within HEIs. HEIs may need to promote teamwork, collaboration, and mutual respect among staff to maximise the positive effects of employee PCF on CON. They can use the insights from this study to inform strategic planning and resource allocation decisions. By prioritising initiatives that enhance employee fulfilment, promote TQM practices, and support ICT adoption, HEIs can create environments conducive to both employee and student success. Finally, this conceptual research advances Sustainable Development Goal 4, which aims to guarantee inclusive and fair quality education and encourage endless possibilities for learning for every student (United Nations, 2015).

## 6. Theoretical implications

This conceptual research integrates theories from organisational psychology, human resource management, organisational behaviour, and educational management. By examining the interplay between PCF, TQM, ICT adoption, and support from the government and co-workers, the study contributes to a holistic understanding of organisational dynamics in HEIs.

The study adds to the body of research by looking into how GOS and COS, as well as TQM and ICT adoption, affect student happiness. It does this by shedding light on how employee PCF affects student happiness. This fills a gap in the literature by providing insights into the complex relationships between these variables. The study bridges the gap between educational management literature and other fields such as quality management, information systems, and public administration. This interdisciplinary approach enriches theoretical perspectives by applying concepts and frameworks from diverse disciplines to the educational context.

Finally, HEIs, like any corporate entity, operate within unique socio-political and cultural contexts. By considering the moderating effect of GOS, the study acknowledges the importance of contextual factors in shaping organisational dynamics. This contributes to theoretical development by emphasising the need to account for context-specific variables in educational research.

## 7. Research implications

Further studies may empirically test this conceptual framework and postulations in different HEIs, including universities, colleges, or other tertiary education institutions, using statistical data from diverse settings to validate or disprove the findings in this conceptual piece. Specifically, they may empirical test how employee PCF affects CON. Furthermore, they could examine how TQM and ICT adoption will independently and jointly mediate between employee PCF and CON. Additionally, future researchers may empirically test the contextual factors (GOS, COS) under which the employee PCF–CON relationship can be strengthened (high GOS, COS) or weakened (low GOS, COS).

## 8. Conclusions

This paper makes an attempt to explore the direct association between employee PCF and CON. Again, it addresses the effect of employee PCF on TQM adoption and its subsequent impact on CON. In addition, it explores the effect of employee PCF on ICT adoption and its resulting effect on CON. Also, it addresses the effect of employee PCF on both TQM and ICT adoption and their subsequent impact on CON. It further explores the contextual factors (GOS, COS) under which the employee PCF–CON association can either be enhanced or weakened by proposing a conceptual model with testable postulations.

This paper highlights the role of employee PCF as an employer–employee relations tool, TQM as a strategic management tool, ICT adoption as an ICT tool, and GOS and COS as a motivational tool for achieving CON in HEIs. Along with implications for both practitioners and researchers, this paper also recommended directions for further research to enrich the fields.

## Acknowledgements

This article's quantity and quality have been enhanced through the contributions of the Editor-in-Chief, Professor Len Tiu Wright, the Senior Editor, Dr. Helen Cai, and the comments provided by the Blind Assessors.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## About the author



**Samuel Koomson** is a senior member at the University of Professional Studies, Accra (UPSA) with a specialisation in management science. He has and continues to contribute to numerous disciplines. His academic publications cover a wide range of industries. He teaches project management, supply chain management courses, strategy and sustainability, risk management and insurance, operations management, and managing organisations. Koomson worked at the Nobel International Business School (NiBS) as the Director of Research and Publication before joining UPSA. He has attended a number of national and international conferences. Koomson has countless peer-reviewed academic and practitioner articles to his name, an enviable citation record, and is a proud member of the Institute of Directors, Ghana (MIoD-Gh). The research reported in this paper underscores the relevance of meeting the expectations of employees because they are the cornerstones of customer contentment. As a collective force, employees can either make or break organisations.

## ORCID

Samuel Koomson  <http://orcid.org/0000-0002-4947-0471>



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