Organizational Culture and Employees’ Loyalty: An Empirical Research from an University Context

Vu Dinh Khoa¹, Ngo Van Quang², Nguyen Thi Nguyet Dung³, Bui Thi Phuong Hoa⁴ and Nguyen Thi Thu Huyen⁵

Abstract

The current study was conducted to test the relationship between organizational culture and loyalty of employees at Hanoi University of Industry. In addition, the study also explores the mediating role of work motivation, satisfaction, relationships with superiors, and relationships with colleagues in the relationship between organizational culture and loyalty. The study used primary data from the survey, with 340 valid questionnaires, the study used the SEM structural model, and processed data through SPSS24 and AMOS 24 software. The research results showed that there is a proportional relationship between organizational culture and employee loyalty, work motivation, satisfaction, relationships with superiors, and relationships with colleagues. Intermediary in this relationship among them, organizational culture has the strongest overall impact on loyalty. Management implications and future research directions are also discussed.

Keywords: Organizational Culture, Satisfaction, Work Motivation, Loyalty, Relationship with Superiors, Relationship with Colleagues

INTRODUCTION

Organizational culture is one of the factors that can influence employee engagement and performance. Organizations that practice positive cultures can encourage employee work and engagement. Employee engagement as a precursor to productivity. If employees are actively involved and maintain commitment to their work and employees are engaged, it will positively influence organizational performance (Suharti and Sulistyanto 2012). Universities are also institutions deeply influenced by culture. Therefore, organizational culture has an impact on almost every aspect of the school. Organizational culture determines whether school members focus on a common goal, commit and make efforts for that goal. Organizational culture helps members identify and build individual and school commitment to core values. A school with a positive culture will make an important contribution to improving working efficiency and enhancing the quality of teaching and learning of the school.

The research of (Sutanto and Setiadi 2021) showed that organizational culture is a factor that has a positive impact in developing employee loyalty at university. This behavior follows the motivating ideals of providing a suitable work environment for employees, increasing loyalty to the university helping these schools achieve their stated goals. However, there are also many scholars who disagree about the nature of the impact of organizational culture on employees' loyalty to educational institutions (Coelho et al. 2021, Kistyanto et al. 2022, Sorour, Boadu and Soobaroyen 2021). It can be seen that there still exist conflicts about the influence of organizational culture on the loyalty of university employees. In Bodla's research, Huma Ali and Naeem Ali (2013) found that there are 10 components of corporate culture, including: Participation; Cooperation; Information transmission; Pay attention to customers; Strategic direction; Reward and incentive system; The controlling system; Communication; Combination; Inclusion has a positive impact on loyalty and desire for engagement among employees in Pakistani universities. A Chinese scholar Guo Yujin (2002) investigated and analyzed employees of many businesses through empirical research, and concluded that there is a significant

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positive correlation between organizational culture and employee loyalty in a business varies according to gender, age and education level. Nguyen Hong Ha and colleagues (2019) found 6 factors that affect employee loyalty: colleagues, leaders, job characteristics, remuneration policies, organizational culture and working environment. Ha Nam Khanh Giao and Vu Thi Kim Xuan (2017) concluded that income and benefits, Superiors, Training and development opportunities, Job performance evaluation system, Colleague relationships, Work characteristics affecting employee loyalty. Scholars also suggested that there is a need for research to identify and supplement intermediate variables in studying the influence of organizational culture on employee loyalty to further evaluate the impact of organizational culture on loyalty. Many studies show that organizational culture is a factor that has a positive influence on the loyalty of university employees. Scholars (Sutanto and Setiadi 2021) also point out that universities need to have an organizational culture that has its own characteristics and provides an appropriate framework and way of doing work within the organization to enhance morale. Employee loyalty. Organizational culture significantly impacts various work behaviors and employee commitment in achieving the university's stated goals (Cao et al. 2015). However, they point out that there is a need for further research on this relationship and point out the specific mechanism of stimulation from the work environment, specifically organizational culture to an individual's evaluation and behavior (loyalty) (Coelho et al. 2021, Kistyanto et al. 2022, Sorour et al. 2021). This study tries to fill the gap by applying the SOR psychological model to explain the mechanism of organizational culture's impact on the loyalty of employees at universities in Vietnam. Through the literature review, we found that there are still some gaps such as (1) There are still conflicts about the influence of organizational culture on the loyalty of employees in universities, (2) Not any research has shown the influence of organizational culture on loyalty more clearly. Some studies have shown the independent impact of organizational culture factors on loyalty, (3) not any research that clearly explains the mechanism of organizational culture's impact on employees' loyalty to the university. This study was conducted to try to fill these research gaps by conducting research on the influence of organizational culture on the loyalty of employees at Hanoi University of Industry. Internally, the study applies the SOR psychological model to better explain the mechanism of organizational culture's impact on the loyalty of employees, and at the same time, the study also further explains the relationship. This is by proving the mediating role of the factors "Relationship with superiors, relationship with colleagues, satisfaction, work motivation". At the same time, the study also tries to conduct a theoretical overview to contribute more documents on organizational culture in universities. To accomplish these goals, the study attempts to answer the following research questions:

First, to what extent does organizational culture impact the loyalty of employees?

Second, the role of satisfaction, work motivation, relationships with superiors, relationships with colleagues in the relationship between organizational culture and loyalty of employees at the university?

Third, is there any influence from organizational culture on satisfaction, work motivation, relationships with superiors, relationships with colleagues?

Finally, to what extent does satisfaction, work motivation, relationships with superiors, and relationships with colleagues affect the loyalty of employees at the University?

To answer the research questions, this document is structured in 5 parts, after the introduction is the theoretical basis and research hypotheses, the third part is the research method, the next part is the results research and the final part is a discussion of the research results.

THEORETICAL AND RESEARCH HYPOTHESIS

SOR Model of Psychology

The SOR model of (Mehrabian and Russell 1974) is considered a suitable foundational theory in the study of human behavior and action (Nunthiphatprueksa & Suntrayuth, 2018). Empirically, most researchers use the extended SOR model as a foundational theory to examine cause and effect among three key variables within the structured conceptual framework of their research. Kim et al (2020) also reported that the SOR model is widely used to evaluate human cognition and behavioral intentions in a single integrated framework. Current studies also demonstrate the flexibility of the model, allowing multiple variables to be combined and tested in.
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research (Ngah et al., 2019). Overall, the SOR model has proven to be a useful and flexible theoretical framework for studying the complex interactions among stimuli, individuals, and responses in human behavior. Its widespread use and adaptability highlight its value as a foundational theory for research in diverse fields.

The relationship between the physical environment and employee behavioral responses during work can be explained by applying contextual psychology as (Mehrabian and Russell 1974) elaborated and theorize. The SOR model is a basis for explaining the mechanism of the physical environment's impact on humans and their behavior. The SOR model is applied in many different research topics, mainly marketing research and customer behavior. In their study of customer behavior in a fashion store focusing on the female market, (Morrison et al. 2011) showed that physical environmental S-stimuli such as appropriate music, a pleasant scent has the effect of enhancing customer happiness, stimulating them to perform better purchasing behavior. The authors of the SOR model describe “joy” purely in terms of positive or negative emotions. In the study of (Schreuder et al. 2016) it was demonstrated that a worker's emotions and their beneficial/coping behaviors during work are dependent on the characteristics of the work environment. These characteristics may include the nature of the work, the brightness of the light source, noise, human presence, odors, colors, etc.

In short, the SOR model explains that stimuli from the work environment (S) first elicit emotions in individuals (O) which, in turn, create that individual's positive or negative behavior (R). Scholars also point out that environmental stimuli (surrounding environmental characteristics) can lead to internal responses (e.g., emotional intelligence and emotional dissonance) and, therefore, reactive behavior/responses (e.g., pleasant or unpleasant) with consequences geared toward avoiding sabotage. For example, (Jani and Han 2015) applied the SOR psychological model to examine hotel atmosphere and the impact of this atmosphere on customers. Research also showed that the atmosphere can influence employee loyalty by evoking individual employees' emotions.

This study applies the SOR psychological model to explain the influence of organizational culture on the loyalty of employees. Organizational culture is the environmental factors (S) that impact the emotions of individual employees, thereby forming the relationship between superiors and subordinates, the relationship between colleagues, work motivation and satisfaction of employees (O) and thereby create their loyal or opposite behavior (R).

Organizational Culture of The University

According to (Sorour et al. 2021), organizational culture in higher education can be considered as the values and standards of lecturers (scholars, officials, etc.) communicated verbally and in writing or communicated unconsciously, these values are built on the traditions of the university.

Meanwhile, (Nunez et al. 2020) Describes university culture as a set of values, norms, beliefs, practices, and assumptions that are formed as they interact with each other and thereby shaping the behavior of everyone in the university, specifically the interactions between university staff and staff, between university staff and students, and between students and students.

In another study, (Kuh & Whitt, 1988) argued that the university is the nexus of academic, administrative and technical collaboration, so it is a common “home” for individuals from different backgrounds. Different cultures, however, university culture can still be identified by common principles, codes of conduct, and common patterns that form values, norms, beliefs, and assumptions to guide the conduct of university individuals both on and off campus.

In short, a university's organizational culture is understood as the principles, codes of conduct, and general patterns prescribed in writing or unconsciously communicated, which form standards, beliefs and assumptions that guide the behavior and interactions of individuals both on and off campus.

Many scholars have divided a university's organizational culture into many different components, for example, in the study of (Shen and Tian 2012) presented two factors belonging to academic culture and school culture. The authors defined academic culture in a school as essentially the external expression of the common values, spirit, and behavioral standards of those in the school who are pursuing and developing their learning and
research. This type of culture can be expressed in rules, regulations, behavioral patterns and facilities. It mainly includes academic perspective, academic spirit, academic ethics and academic environment. School culture is a combination of many different cultures on campus created by all members of the school together and accumulated through the long process of running the school. It includes three aspects: material culture, campus culture and spiritual culture (Jam et al., 2017). Material culture on campus, often expressed in the form of environment and facilities, is the common name for the external form of materialization in the development process of the university. Campus culture includes the general system and the special system, which mainly refers to the regulatory system, management and operation rules, and restriction mechanisms. Academic culture and school culture are two unique and distinct cultural features found only in educational organizations.

In the study of Hao (2018), three elements of the university's organizational culture are presented: Quality culture, academic culture and school culture. The author quotes “Quality culture is an organization's value system expressed through an environment that encourages the formation and continuous development of quality” (Ahmed, SM, 2008). Thus, it can be understood that quality culture in universities is the school's value system expressed through an environment that encourages the formation and continuous development of quality. The University's quality culture can be expressed through the University's strategy to continuously improve quality comprehensively, develop a quality management system, and constantly update and upgrade programs. training programs or constantly improving the quality of academic staff, etc.

Another important component of organizational culture is social responsibility activities. Many studies have shown that social responsibility is an important part of organizational culture, contributing to the sustainable development of the organization. One of the important factors demonstrating this role of culture is creating a reasonable balance between the "internal" development of the organization and the social and community responsibilities that the organization needs to carry out (Epstein et al., 2010). As organizations - Universities also need to pay attention to community service activities to build and develop their organizational culture. Many university organizational culture building programs propose social responsibility activities and community service in the process of building culture (Hao 2018, Shen and Tian 2012). Therefore, "Community Culture" is also one of the aspects of the University's organizational culture. Community culture in university culture is understood as the university's activities aimed at developing the unique cultural values of the university in the community, trying to reasonably meet the needs of the community, creating conditions for businesses to participate in the school's training, science and technology activities and the school's policy of participating in academic leadership, in evoking and solving cultural issues, social, economic importance.

In summary, according to our understanding through the review process, it can be seen that the University's organizational culture is made up of 4 parts: (1) quality culture, (2) campus culture. street, (3) Academic culture, (4) community culture.

Research Hypothesis

According to Schein, organizational culture is a type of basic convention devised, discovered and built by a group of people to solve problems of external adaptation and internal integration (Schein 2010) . These conventions must be considered valid and standard for new members of the organization to absorb and comply with (Le Thuy Kieu, 2009). Organizational culture shows the basic and radical characteristics of an organization. Therefore, it can become a source of sustainable competitive advantage if the culture is valuable, rare, and imperfect. Organizational culture can create value because it can simplify information processing and reduce monitoring and bargaining costs among workers (Zhang and Li 2013).

Because there are many different research approaches and purposes, there are also many different perspectives on organizational culture. Schein believes that organizational culture includes 3 levels: External level - tangible behaviors and structures (Behaviors and Artifacts), Deeper level - accompanying values (Espoused values), Deep level Basic underlying assumptions & Deliefs (Schein 2010).

Research to test the organizational culture factors that affect the engagement of office employees at Joint Stock Companies in Ba Ria - Vung Tau province, by surveying 400 employees. Cronbach's Alpha analysis method, EFA analysis along with multiple regression analysis were used with SPSS means. The results show the influence...
of factors - in decreasing order of importance - on employee engagement including: Training and development, Information exchange; Rewards and recognition, Teamwork; Promotion opportunities. The study proposes a number of recommendations for managers of joint stock companies in Ba Ria-Vung Tau province to enhance the engagement of office employees (Giao 2016).

After conducting research on the topic "Assessing the impact of organizational culture on employee performance at Vietnam Bank for Agriculture and Rural Development - Tra Vinh province branch", the goal has been completed is an overview of concepts and theories related to organizational culture and employee performance. The author group conducted surveys, analyzed and built a research model. Research results show that there are 7 factors that positively impact the working performance of employees at the Bank for Agriculture and Rural Development of Tra Vinh province: Working spirit, teamwork, and supervision of superiors, employee engagement, meetings, learning, information flow. From the research results, the authors have proposed a number of management implications for related subjects, in order to improve the working efficiency of employees at the Bank for Agriculture and Rural Development of Tra Vinh province (Tram Thi Thuy 2020).

According to M. Abbas, research on the influence of organizational culture and leadership style on employee loyalty concluded that organizational culture has a positive influence on employee loyalty with the intermediate variable being employee engagement (Abbas 2017).

The core values that make up the organizational culture create cohesion among employees, accompanied by other policies that help balance work and life, thereby increasing employee loyalty. members towards their organization (Ericsson 2018).

Hs. Kahpi et al. concluded: a well-implemented, enhanced organizational culture will increase employee loyalty in the musical instrument manufacturing industry; this conclusion can be applied to organizations in the musical instrument industry. other professions (Kahpi et al. 2020).

An organization with a good organizational culture will bring benefits to employees, thereby increasing the level of employee loyalty to the organization with the support of Employee Loyalty as committed. group (GC), emotional commitment (AC), job involvement (JI) (Sutanto and Setiadi 2021).

D. Chong's research states: besides factors such as working environment, workload, leadership, salary and colleagues, organizational culture and organizational justice also affect loyalty. employee success (Chong 2022).

From the above evidence, the authors propose the following hypothesis:

**H1: Organizational culture has a positive impact on the loyalty of officers, employees to the organization.**

Employee job satisfaction is not a new concept in business. Job satisfaction was first mentioned and developed by Landsberger with the Hawthorne effect (Landsberger 1958). Although he did not mention job satisfaction in his research, it is still considered the basis for the development of the concept of job satisfaction. The Hawthorne effect has shown that employees work for many purposes other than just salary. After that, a number of studies have examined and analyzed this concept, the most popular being the definition of job satisfaction developed by Locke. He defined employee job satisfaction as a pleasure or positive emotional state through evaluation of work or experiences (Locke 1976). This definition analyzed job satisfaction as feelings and thoughts aroused from within a person and not influenced from outside (Kim, Leong and Lee 2005, Glisson and Durick 1988).

Based on the research of Chang et al., employee job satisfaction is a premise for employee loyalty (Chang, Chiu and Chen 2010). Several other studies such as Jun et al. and Arsic et al. also consistently reported a strong relationship between employee organizational loyalty and employee job satisfaction (Arsić et al. al. 2012, Jun, Cai and Shin 2006). There are many factors that can affect employee job satisfaction. Spector summarized the determinants of job satisfaction which can be divided into two categories which are external factors and internal factors (Spector 1997). External factors include organizational culture, working conditions, job security, and compensation. Working conditions include physical and social conditions in the workplace (Unutmaz 2014). Employees' job satisfaction will decrease without good working conditions, which will lead to poor work quality.
Job security refers to the extent to which an organization provides stable employment for employees (Herzberg 1966). Wong, Abdul Rahman and Choi note that the compensation discussed is the monetary compensation paid to employees for completing their work (Yvonne, Rahman and Long 2014). From these evidences, it can be confirmed that organizational culture is a factor that affects employee satisfaction. The strongest correlation between employee satisfaction and employee loyalty in this study (Abbas) came from the post-satisfaction variables, specifically recognition and rewards, teamwork and cooperation, working conditions and relationships with superiors. Scores for relationship with supervisor, strongly correlated with all three dimensions of employee loyalty. Sturgeon says that a worker’s relationship with their immediate supervisor is very important to the worker because they both work in the same organization and share the same workplace (Sturgeon 2006). Employees who feel satisfied with their jobs are likely to be more loyal to the organization than dissatisfied employees (Kim et al. 2005). Once employee job satisfaction increases, the employee's level of loyalty to the organization also increases. On the other hand, once employee job satisfaction decreases, it will lead to decreased employee loyalty, employee morale, and increased job turnover. Low job satisfaction can also cause employees to withdraw from their jobs, look for new jobs, or change their current jobs and careers.

From the above evidence we propose the following hypothesis:

H2: Organizational culture positively affects job satisfaction

H3: Job satisfaction plays a mediating role in the relationship between organizational culture and employee loyalty

H4: Job satisfaction positively affects employee loyalty

Organizational culture and motivation have received almost comprehensive attention in research. This is due to the general appreciation that these two variables affect not only the performance of individual employees but also the efficiency, effectiveness and retention of the entire Organization. Interest in organizational culture stems from the belief that culture influences behavior, decision making, organizational strategy, and individual and organizational performance. Unmotivated employees often show dissatisfaction at work, are therefore less committed and are more likely to leave the Organization. Even without the opportunity to quit, they may still be emotionally and psychologically detached or withdrawn from the Organization. Thokozani SB Maseko's research on the impact of organizational culture on employee motivation shows that weak organizational cultures are said to be less successful than strong organizational cultures in achieving organizational goals due to perceived link between culture and motivation (Thokozani and Maseko 2017). This is because Organizations with a strong Organizational culture will have more unity among employees as they have common beliefs and values. Having the same awareness of values and beliefs causes employees to have a strong connection to each other and to the Organization, from which employees have a strong sense of group, encouragement and mutual motivation. Motivation is an important component of organizational culture. Mihaela and Cătălin believe that the core of Organizational Behavior is human motivation at work. The behavior of Organizations reflects human motivation (Otelea and POPESCU 2014). Therefore, it can be inferred that employee motivation plays an important role in job performance, therefore managers need to identify ways to motivate their employees. Organizational Culture has a major impact on motivation of employees in their work and feel responsible for the success of the organization. It is important for managers to identify appropriate ways to use the organizational culture to motivate their employees.

Investigating the impact of motivation on loyalty and performance intention in the Greek banking sector based on Alderfer's theory on employee loyalty and performance intention. Empirical results indicate that four out of five need satisfaction factors are positively and significantly related to loyalty, and three out of five motivational factors are positively related to job performance. Some researchers have proposed a positive relationship between motivation and loyalty or Employee Loyalty (Orphen, 1997; (Karatepe and Uludag 2007, Mak and Sockel 2001). Mak and Sockel discovered found empirically that motivation has an impact on IS employee retention and loyalty is one of its indicators (Mak and Sockel 2001). Furthermore, conceptual theory as well as empirical evidence have shown that intrinsically motivated employees tend to be more connected and loyal to the organization (Miao, Evans and Shaoming 2007, Low et al. 2001, Eby et al. 1999, Mathieu and Zajac 1990, Miller 2002). Therefore, highly committed individuals are more likely to use actions and behaviors that support
the achievement of the company's strategic goals and overall goals due to internal motivation than are (Porter et al. 1974). From the above evidence we propose the following hypothesis:

**H5: Organizational culture positively impacts work motivation**

**H6: Work motivation plays a mediating role in the relationship between organizational culture and employee loyalty**

**H7: Motivation at work positively affects employee loyalty.**

The relationship between colleagues is one of the factors that affect the cohesion of members in the organization, thereby creating motivation and increasing the level of job satisfaction of members (Basheer et al. 2019). In the study of Pawirosumarto and his colleagues, it was shown that organizational culture and working environment - including relationships between colleagues - have a positive impact on employee satisfaction and loyalty (Pawirosumarto, Sarjana and Gunawan 2017). When employees have a working environment as expected and have close relationships with colleagues, it will create job satisfaction and loyalty (Taneja, Sewell and Odom 2015). According to Abbas, organizational culture and leadership style both have a positive influence on the engagement of members in the organization, in which leadership style has a greater impact than organizational culture on engagement. members, however, it cannot be denied the importance of organizational culture for member engagement (Abbas 2017). Based on the organizational culture that has been built during the establishment of the organization, principles, behavioral standards, and working styles among members and colleagues in the organization will be set. Therefore, the working process becomes systematic and easier, members cooperate and work together to accomplish the organization's goals. When members of an organization bond together, the better the relationship between people at the same level, the greater the level of job satisfaction, through which member loyalty is gradually formed based on satisfaction enthusiasm for each individual's work.

**H8: Organizational culture positively impacts relationships with colleagues**

**H9: Relationships with colleagues play a mediating role in the relationship between organizational culture and employee loyalty**

**H10: Relationships with colleagues at work positively affect employee loyalty.**

The leader-member relationship is defined as the structure for the relationship between leaders and followers, which is considered a necessary component that determines organizational cohesion (Laschinger, Purdy and Almost 2007) and is a factor that directly affects employee loyalty in each organization. According to Baird, the relationship between a manager and a subordinate involves two people, each of whom will have different needs and requirements under respective conditions (Baird and Kram 1983). An effective leader - member relationship when it meets the interests of individuals. Some previous studies (Thanh et al., 2020) (Yang and Kim 2018, Nguyen 2020, Suong, Thanh and Dao 2019) show that leadership has a vital influence on organizational activities. Therefore, management levels are recommended to provide a comfortable environment and resources for employees to achieve certain effects as well as retain employees to create a certain loyalty of subordinates towards them. organization. It is estimated that improving the relationship between employees and superiors is an effective tool to enhance employee motivation (Klein and Kim 1998). When employees have increased motivation to work, their work efficiency is better, helping employees think about long-term commitment to the organization. The relationship between superiors and subordinates will complement each other to complete the job well.

Based on the premise of the organizational culture available to the business, employees in the organization have certain behavioral standards when working with colleagues as well as superiors. Superiors also rely on those cultural standards to easily coordinate work with their subordinates based on the spirit of solidarity and mutual trust for the organization's goals. Besides, organizational culture also helps leaders to control and operate their organization or unit more easily based on existing organizational cultural standards. From these evidences, it shows that organizational culture is a factor that affects the relationship between superiors and subordinates.

**H11: Organizational culture has a positive impact on relationships with superiors**
H12: Relationship with superiors plays a mediating role in the relationship between organizational culture and employee loyalty

H13: Relationships with superiors at work positively affect employee loyalty.

From the above research hypotheses, the authors propose the following research model:

RESEARCH METHODS

Questionnaire Design

The questionnaire was built using the back translation method, the author first searched for documents using scales for the concepts used in the model, first the author translated these scales into Vietnamese and revised to make it more suitable for the research context. This process involves consultation with specialized lecturers with extensive experience in research to ensure that the concepts used by the author in the questionnaire are appropriate and understandable to the survey subjects. After that, the author translated this adjusted scale into English to ensure that the observed variables that the author used were the closest in meaning to the observed variables that the author inherited from previous studies.

The employee loyalty scale in this study is measured by 6 observations, inherited from the research of (Matzler and Renzl 2006, Ding et al. 2012). The employee satisfaction scale is measured by 7 observations (Koustelios and Bagiatis 1997, Trivellas, Reklitis and Platis 2013). The work motivation scale is measured by 5 observations (Gagné et al. 2015). Relationships with colleagues play an important role in building a positive, motivating and effective work environment. The scale of relationships with colleagues (Singh 1983) is measured by 6 observations. The scale of relationships with superiors is measured by 7 observations (Singh 1983).

Collect Data

The authors sent 380 surveys to employees at Hanoi University of Industry using the convenient sampling method. The results were 372 responses. Through the cleaning process, 340 valid responses were obtained. Valid data was coded and processed using SPSS software. Statistical information describing the study sample is shown in the following table:
Table 1: Descriptive statistics of the study sample

<table>
<thead>
<tr>
<th>No</th>
<th>Element</th>
<th>Ingredient</th>
<th>Quantity</th>
<th>Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sex</td>
<td>Female</td>
<td>233</td>
<td>68.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>107</td>
<td>31.5</td>
</tr>
<tr>
<td>2</td>
<td>Age</td>
<td>Under 25 years old</td>
<td>25</td>
<td>7.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From 25 years old to under 30 years old</td>
<td>86</td>
<td>25.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From 30 years old to under 50 years old</td>
<td>170</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From 50 years old or older</td>
<td>59</td>
<td>17.36</td>
</tr>
<tr>
<td>3</td>
<td>Seniority</td>
<td>Less than 1 year</td>
<td>41</td>
<td>12.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From 1 to less than 3 years</td>
<td>86</td>
<td>25.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From 3 to less than 5 years</td>
<td>81</td>
<td>23.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From 5 years or more</td>
<td>132</td>
<td>38.83</td>
</tr>
</tbody>
</table>

RESEARCH RESULTS

Test The Reliability, Discrimination and Convergence Of Scales

- Test For Unidimensional and Fit With Market Data

It is necessary to determine the conditions for measuring the model's fit with the data to ensure unidimensionality for the set of observed variables (Hu and Bentler 1999). To determine this suitability, this study uses the following indicators: CMIN, CMIN/df, CFI, GFI, TLI, RMSEA and PCLOSE indexes.

<table>
<thead>
<tr>
<th>Index</th>
<th>Standard</th>
<th>Result</th>
<th>Evaluate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN/df</td>
<td>≤3</td>
<td>1.692</td>
<td>Good</td>
</tr>
<tr>
<td>GFI</td>
<td>0.8&lt;GFI&lt;0.9</td>
<td>0.866</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI</td>
<td>≥0.9</td>
<td>0.952</td>
<td>Good</td>
</tr>
<tr>
<td>TLI</td>
<td>≥0.9</td>
<td>0.948</td>
<td>Good</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤0.6</td>
<td>0.045</td>
<td>Good</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>≥0.01</td>
<td>0.954</td>
<td>Good</td>
</tr>
</tbody>
</table>

(Source: Analytical data from the author's survey)

The results after CFA analysis, we have: CMIN/df= 1.692 (CMIN/df ≤3); GFI= 0.866 (0.8<GFI<0.9); CFI=0.952 (CFI≥0.9); TLI=0.948 (TLI≥0.9); RMSEA=0.045 (RMSEA≤0.6); PCLOSE=0.9540 (PCLOSE≥0.01). Because of the limitation of sample size, the GFI index = 0.866 is still acceptable according to Baumgartner and Homburg (1995) and Doll, Xia, and Torkzadeh (1994). The results of the unidimensional test are shown in the figure below:
Thus, the results of CFA analysis show that the measurement model is consistent with actual data. And to continue our research, we consider the reliability, convergence and discriminant validity of the scales.

- **Test The Reliability, Convergence And Discriminant Value Of The Scale**

First, to test reliability, the study evaluated two indicators: standardized factor loading (≥0.5) and composite reliability (CR≥0.7). Next, to test the convergence of the study, the assessment is based on the AVE index (≥0.5). Finally, to achieve discrimination, the MSV indexes must be smaller than the corresponding AVE index; At the same time, the SQRTAVE index must be greater than the Inter-Construct Correlations index. The table below shows these statistical indicators:

<table>
<thead>
<tr>
<th></th>
<th>CR</th>
<th>AVE</th>
<th>DL</th>
<th>HL</th>
<th>CT</th>
<th>DN</th>
<th>VH</th>
<th>TT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL</td>
<td>0.891</td>
<td>0.620</td>
<td>0.787</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HL</td>
<td>0.921</td>
<td>0.625</td>
<td>0.442</td>
<td>0.791</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT</td>
<td>0.911</td>
<td>0.593</td>
<td>0.653</td>
<td>0.455</td>
<td>0.770</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DN</td>
<td>0.902</td>
<td>0.606</td>
<td>0.489</td>
<td>0.395</td>
<td>0.400</td>
<td>0.778</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VH</td>
<td>0.898</td>
<td>0.596</td>
<td>0.426</td>
<td>0.355</td>
<td>0.339</td>
<td>0.772</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TT</td>
<td>0.946</td>
<td>0.744</td>
<td>0.622</td>
<td>0.667</td>
<td>0.669</td>
<td>0.556</td>
<td>0.522</td>
<td>0.863</td>
</tr>
</tbody>
</table>
Table 3 shows the corresponding indexes MSV < AVE. At the same time the index SQRTAVE > Inter-Construct Correlations. Therefore, with this result we can conclude that the standards for evaluating distinctiveness are guaranteed. Therefore, the CFA test results show that the concepts meet the requirements in terms of validity as well as reliability, the number of factors and variables measured on those factors are consistent with expectations on a theoretical basis. theory has been established before. Therefore, the scale is suitable for analyzing linear structural models.

**Hypothesis Testing**

Before testing the hypothesis, the author re-tested the model to determine its compatibility with market data:

<table>
<thead>
<tr>
<th>Index</th>
<th>Standard</th>
<th>Result</th>
<th>Evaluate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN/df</td>
<td>≤3</td>
<td>2.014</td>
<td>Good</td>
</tr>
<tr>
<td>GFI</td>
<td>0.8&lt; GFI&lt;0.9</td>
<td>0.838</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI</td>
<td>≥0.9</td>
<td>0.930</td>
<td>Good</td>
</tr>
<tr>
<td>TLI</td>
<td>≥0.9</td>
<td>0.924</td>
<td>Good</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤0.6</td>
<td>0.055</td>
<td>Good</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>≥0.01</td>
<td>0.040</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

Important criteria in testing SEM linear structure are presented above. This result shows that the research model and collected data are suitable for practice. The measurement indicators are consistent with the evaluation criteria and appropriate to the situation that the author researches. Specifically, index P = 0.000 satisfies the criteria P < 0.05, CMIN/df = 2.014 satisfies the evaluation criteria CMIN/df < 3, index GFI = 0.838, CFI = 0.930, TLI = 0.924 satisfies the criteria > 0.9, RMSEA = 0.055 satisfies the condition that this criterion must be less than 0.6, PCLOSE = 0.040 satisfies the criterion > 0.01. From these indicators, it is concluded that the model used by the author is appropriate to actual data and suitable for conducting the next steps of data analysis. From the above data, we have the following model:
Figure 3: SEM linear structural model

Hypothesis Testing

The table below shows details of the model's unstandardized regression coefficients and the necessary factors to test the hypothesis:

Table 5: Regression coefficients

<table>
<thead>
<tr>
<th>No</th>
<th>Relationship</th>
<th>Regression coefficients are not standardized</th>
<th>Standardized regression coefficient</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HL &lt;--- VH</td>
<td>.524</td>
<td>.396</td>
<td>***</td>
</tr>
<tr>
<td>2</td>
<td>CT &lt;--- VH</td>
<td>.444</td>
<td>.407</td>
<td>***</td>
</tr>
<tr>
<td>3</td>
<td>DN &lt;--- VH</td>
<td>.391</td>
<td>.381</td>
<td>***</td>
</tr>
<tr>
<td>4</td>
<td>DL &lt;--- VH</td>
<td>.519</td>
<td>.474</td>
<td>***</td>
</tr>
<tr>
<td>5</td>
<td>TT &lt;--- VH</td>
<td>.219</td>
<td>.185</td>
<td>***</td>
</tr>
<tr>
<td>6</td>
<td>TT &lt;--- CT</td>
<td>.362</td>
<td>.334</td>
<td>***</td>
</tr>
<tr>
<td>7</td>
<td>TT &lt;--- DN</td>
<td>.239</td>
<td>.208</td>
<td>***</td>
</tr>
<tr>
<td>8</td>
<td>TT &lt;--- DL</td>
<td>.141</td>
<td>.131</td>
<td>.004</td>
</tr>
<tr>
<td>9</td>
<td>TT &lt;--- HL</td>
<td>.339</td>
<td>.380</td>
<td>***</td>
</tr>
</tbody>
</table>
The unstandardized P - value between concepts is less than 0.05, so it is concluded that the concepts used by the author in this research model have a statistical relationship with each other. Therefore, accept the following hypotheses:

H1: Organizational culture has a positive impact on the loyalty of officers, employees to the organization.
H2: Organizational culture positively affects job satisfaction
H4: Job satisfaction positively affects employee loyalty
H5: Organizational culture positively impacts work motivation
H7: Motivation at work positively affects employee loyalty.
H8: Organizational culture positively impacts relationships with colleagues
H10: Relationships with colleagues at work positively affect employee loyalty.
H11: Organizational culture has a positive impact on relationships with superiors
H13: Relationships with superiors at work positively affect employee loyalty.

To accomplish the proposed research objectives, the authors continue to test the mediating role of factors such as employee satisfaction, work motivation, relationship with superiors, and relationship with employees. contact with colleagues. The test results are shown in Table 6

Table 6: Intermediate relationships

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Direct</th>
<th>Indirect</th>
<th>Intermediate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VH -&gt; HL -&gt; TT</td>
<td>0.076</td>
<td>0.000</td>
<td>0.151 0.001</td>
</tr>
<tr>
<td>VH -&gt; CT -&gt; TT</td>
<td>0.064</td>
<td>0.000</td>
<td>0.136 0.001</td>
</tr>
<tr>
<td>VH -&gt; DN -&gt; TT</td>
<td>0.060</td>
<td>0.000</td>
<td>0.079 0.001</td>
</tr>
<tr>
<td>VH -&gt; DL -&gt; TT</td>
<td>0.065</td>
<td>0.000</td>
<td>0.062 0.001</td>
</tr>
</tbody>
</table>

Through the table testing the intermediate relationship between factors, we see that the sig coefficient evaluating the direct and indirect relationships is both less than 0.05, therefore, the following hypotheses are accepted:

H3: Job satisfaction plays a mediating role in the relationship between organizational culture and employee loyalty
H6: Work motivation plays a mediating role in the relationship between organizational culture and employee loyalty
H9: Relationships with colleagues play a mediating role in the relationship between organizational culture and employee loyalty
H12: Relationship with superiors plays a mediating role in the relationship between organizational culture and employee loyalty

Testing the research model aims to confirm that the measurement scales in the research and the concepts of the research model achieve a certain portion of theoretical values.

In addition, the Squared Multiple Correlations table shows that the variables used in the model explain 64.1% of the variation in the effective dependent variable of personal selling activities. This proves that the research model used by the author is appropriate.

**DISCUSSION**

For the purpose of researching the relationship between organizational culture and loyalty of employees at Hanoi University of Industry. The study tries to demonstrate the influence of organizational culture on satisfaction, work motivation, relationships with superiors, relationships with colleagues and employee loyalty. In addition, the research also tries to clarify the role of satisfaction, work motivation, relationships with superiors, and relationships with colleagues in the relationship between organizational culture and loyalty. With the research context being the organizational culture and loyalty of employees at Hanoi University of Industry, the study conducted surveys, collected primary data, and then coded and analyzed data to demonstrate these
relationships. The research results accept all proposed hypotheses, the variables used in the model explain up to 64.1% of the variation in the dependent variable loyalty of employees of Hanoi University of Industry Research results show that organizational culture has a positive impact on work motivation, satisfaction, relationships with superiors, relationships with colleagues, and organizational culture also has positively affects employee loyalty. Applying the SOR psychological model to explain, this result is completely consistent, an organization that builds a good culture brings positive emotions to employees, thereby motivating them to have positive behaviors, at the same time the positive emotions gained from a cultural working environment also help workers have more motivation to complete their work, within the framework of research, it has been proven that that organizational culture is the factor that has the greatest impact on work motivation. In addition, good organizational culture is also the foundation for creating a more comfortable working environment between managers and employees. Therefore, the research results are completely consistent. Research shows that organizational culture is a factor that positively affects the relationship between employees and superiors (Estimate=0.407, P-value=0.000), this finding of the authors also corroborates previous findings (Lee and Cho 2018). A positive organizational culture contributes to creating a positive environment for interactions between superiors and subordinates, while the manager is like a guide, providing directions and strategies for subordinates to implement and bring businesses to development. Within the framework of this research, the relationship with superiors is the second most influenced factor by organizational culture, and at the same time, the relationship with superiors has the second greatest impact on employee loyalty, this further demonstrates the important role of superiors and their relationship with employees. Therefore, this finding is an important basis for managers to plan operating strategies to build culture for their organization. Next, this literature demonstrates that employee satisfaction and relationships with colleagues are also influenced by organizational culture, which is consistent with the findings of (Belias and Koustelios 2014). The study shows factors that affect employee loyalty, specifically, in the authors' research framework, job satisfaction is the factor with the first greatest impact on loyalty of employees at the University (Estimate=0.339). Besides, organizational culture also has the largest indirect impact on loyalty through mediating satisfaction (S.ES=0.151). This finding is consistent with the views of many scholars. Satisfaction is always a factor that contributes to positive employee behavior towards the organization, this is true even for educational organizations. This is a basis for proposing solutions to improve employee satisfaction and loyalty to the organization. Relationships with colleagues are the third most influential factor on the loyalty of employees at the University (estimate=0.208), which can be explained by the fact that among respondents, lecturers make up the majority, and the work of lecturers at the university is mainly teaching and research. Unlike other organizations, the work of each employee depends heavily on colleagues. At the University, lecturers are almost can conduct work independently and have little dependence on other colleagues, therefore, relationships with colleagues are not a factor that has a major impact on their loyalty. To support this argument, the authors' research results also show that relationships with superiors and satisfaction have a greater impact on the loyalty of school employees. Therefore, the results of this study are completely consistent. This is a new and important contribution of the study. Research shows that work motivation is the factor with the weakest impact on employee loyalty (estimate=0.131, P-value=0.004). This can be explained by the fact that loyalty is influenced more by other factors, while work motivation has a greater impact on performance and work efficiency (Maryani, Entang and Tukiran 2021, Widarko and Anwarodin 2022). In the study, organizational culture is also a factor that has a direct positive impact on the loyalty of employees at Hanoi University of Industry with a standardized regression coefficient of 0.185 (P-value=0.000), organizational culture has the fourth largest direct impact on loyalty among the factors this study uses, however, organizational culture has an indirect impact on loyalty success through employee satisfaction, work motivation, relationships with superiors, relationships with colleagues with a total impact of 0.428. This is an important finding of the research. It can be seen that organizational culture is an important factor. Organizational culture has a deep and wide impact on many school activities, so it can be seen that building University culture is an
urgent matter - this is also a new and important finding of the research. Administrators need to pay more attention to building school culture so that loyalty can be enhanced satisfaction as well as work motivation because this will bring positive impacts in achieving the University's goals. In addition, building university culture is also a way to make assumptions and guidelines for behavior on campus, specifically in this study, the relationship between superiors and subordinates. Below, the relationship between colleagues.

The results of the research have made important contributions to both theory and practice. The study tries to understand the relationship between organizational culture and loyalty of employees at Hanoi University of Industry by building a research model and identifying influencing factors by the culture of an organization, specifically in this case a public educational organization. A research model has been proposed by the authors and applied to the research context. The research results have a number of important contributions to theory as follows:

Firstly, the study has built a research model on the relationship between organizational culture and the loyalty of employees at universities, applying the SOR psychological model to explain the relationships in the model. By synthesizing and building models and questionnaires to conduct surveys, the research has provided an additional basis for subsequent scholars to inherit, build and develop a scale system to measure impact of organizational culture at the University.

Second, the study proves the positive influence of organizational culture on the loyalty of employees, satisfaction, work motivation, relationships with superiors, relationships with co-workers. At the same time, the research also proves the mediating role of satisfaction, work motivation, relationships with superiors, relationships with colleagues play a mediating role in the relationship between organizational culture and loyalty. These findings partly contribute to theory by providing additional documents to resolve the contradictions of research streams on the influence of university culture on existing loyalty.

Next, the study shows that relationships with superiors and work motivation do not have a major impact on the loyalty of employees in the University, this is a new contribution of the study. It is explained by the characteristics of the University being different from other organizations, also because the survey subjects of the project, employees seem to be able to work independently and are less dependent on the results of colleagues, therefore, relationships with colleagues have a small influence on the loyalty of school officials and workers.

Finally, the study proves that organizational culture not only has a strong direct impact on the loyalty of employees at the University, but it also has a strong impact on loyalty through through intermediary factors. This result emphasizes the urgency of building an organizational cultural foundation for universities.

Besides contributions to theory, research results also provide certain contributions to practice. Specifically, it proves the importance of organizational culture and other factors, which are important foundations for managers to build plans to increase employee loyalty.

Besides contributions to theory and practice, the research also has some limitations as follows:

First, the study sample only collected respondents who were employees at Hanoi University of Industry, so the study sample was not complete and highly representative. Future scholars may consider expanding the survey sample size to make better contributions to both theory and practice.

Second, the topic only proves the influence of organizational culture on certain factors, while organizational culture is a factor that helps distinguish between one organization and another, so it has deep and wide effects. Future research could further contribute to the literature by studying the influence of organizational culture on employee behavior or performance or adding other mediating factors to provide a more comprehensive view for theory and practice.

Finally, this study only demonstrated the role of some mediating variables. Without considering the moderating and controlling effects of variables, future research can make a richer contribution to theory and practice by demonstrating the moderating role of some factors.
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