

# Innovations

## Determinants of Proactive Work Behavior: Mediating Role of Motivational State

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### Abstract

**Issue:** Scholars used work characteristics to illustrate the promising topic of work design. Proactive work behavior in today's workplace is a developing research field. This study determines proactive work behavior with a mediating role of a motivational state and a comprehensive collection of measures. **Method:** The researchers used survey research as their method of choice to accomplish this goal. 279 respondents provided self-reporting and supervisory information, which we collected. SMART PLS 3.2.8 software was used for the analysis. **Finding:** As a result, we conclude that proactive work behavior was most likely determined with task, knowledge, and contextual factors; however, social characteristics and proactive work behavior were indirectly correlated. The motivational state partially mediates the relationship between work characteristics (i.e task, knowledge, and contextual characteristics) and proactive work behavior while fully mediates between social characteristics and proactive work behavior. We encourage further investigation to confirm our findings and broaden our model by identifying additional employee outcomes regarding proactive work behavior and social traits.

**Key words:** Key words: contextual characteristics, proactive work behavior, Knowledge characteristics, social characteristics, task characteristics and work characteristics

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## 1. Introduction

An integrated and comprehensive form of three higher-order proactive behavior categories was identified by Parker and Collins (2010), as well as Parker, Bindl, and Strauss (2010) built up in their model as proactive work behavior, proactive strategic behavior, and proactive person-environment fit behavior, and each corresponding to (1) behaviors aimed at bringing about change in the internal organization (2) the fit between the organization and its environment, and (3) the fit between the individual and the organization, respectively. Gaining knowledge of the underlying processes that link work characteristics (task, knowledge, social and contextual) with proactive work behavior is especially useful for a better understanding of the phenomenon of proactive behavior and thus necessary for extending theory development (Ohly and Schmitt 2016). Thus, proactive work behavior was predicted by these four work characteristics aspects (Humphrey, Nahrgang, and Morgeson 2007; Morgeson and Humphrey 2006; Parker and Collins 2010).

In their revision of the work design theory, Grant and Parker (2009) demonstrated a dynamic model of job design and proactive behavior. To incorporate the qualities of the workplace and proactive conduct, they justified two key views relational and proactive. While the latter captures the growing significance of employees taking initiative to forecast and shape future changes in how work is conducted, the former places a greater emphasis on how jobs, roles, and tasks are socially embedded than ever before. The four work characteristics dimensions ought to be determined proactive work behavior as a result.

The connection between these work traits and proactive work conduct was more explained by the motivational state (Parker, Bindl, and Strauss 2010), and this motivational state provides a useful theoretical framework for testing mediating variables that might link work characteristics to proactive work behavior. To confirm this theoretical framework, Schmitt, Den Hartog, and Belschak (2016) empirically reviewed that work characteristics (task, knowledge, social and contextual characteristics) can be the antecedence of proactive work behavior through the motivational state.

Both theoretically and experimentally, earlier researchers have contributed to the relationship between workplace traits and proactive work behavior in different aspects. One set of

characteristics was positively correlated with a specific aspect of proactive behavior. However, the relationships themselves were not statistically significant, both direct and indirect in different places. Job autonomy (task characteristics) was an example of an indirect relation that determined proactive work behavior through the mediating processes of perceived behavioral control and intention, work engagement (Permata and Mangundjaya 2021), and perceived behavioral control (Shin and Kim 2015). While job autonomy and proactive work behavior was directly related (Jia et al. 2020), social context characteristics and employees' proactive behavior were also related (Cai et al. 2019).

Regarding measurement issues, prior researchers used a self-reported measure in their work characteristics and proactivity studies (e.g., (Cha et al. 2017 ; Hirschi et al. 2013; Parker and Collins 2010; Strauss et al. 2015; De Stobbeleir, Ashford, and Zhang 2020). However, the use of the self-reported measure of proactive work behavior has a further specific limitation in that we do not know whether observers will make the same behavioral distinctions (Parker and Collins 2010). Therefore, it is important to take into account gathering pertinent information from various sources using various data collection tools while evaluating job characteristics and proactive work behavior. Thus, using a survey questionnaire, the researchers in this study used both the self-reported measure and the supervisor evaluations.

Contextually, businesses must improve their operations and business procedures to compete on a global scale, using research findings as a guide (Crant 2000). Improve the cost, time to market, and quality of products in sectors supported by proactive strategies, for example (Marchetta 2011; Gonzã 2005). Therefore, industries must recognize and comprehend employees' behaviors and feelings to foster a work atmosphere where proactive staff will be beneficial (Bindl 2018). Studies in this area have not been carried out, particularly about Ethiopia.

From this perspective, this study differed from earlier studies in that it did not design a complete linkage between work characteristics (task, knowledge, social, and contextual characteristics) and employees' proactive work behavior with a clear picture of motivational state (energized to state), only using two ratings (the self-report and supervisor ratings) in the context of Ethiopian industrial parks.

This study made a significant contribution to the full investigation of the basic determinants of proactive work behavior. It also ensures the practical integration of task, knowledge, social, and

contextual traits with proactive work behavior to improve employee proactivity within industrial parks. The goal of the current study is to examine determinants of proactive work behavior by taking the motivational state as a mediator in the setting of industrial environments.

## **2. Literature review**

In order to determine the antecedents of proactive behavior various scholars advocated different theories. For instance, Work design theory and research are undergoing a transformation (Grant and Parker 2009). Thus, Work design has a significant impact on the attitudes, behaviors, and well-being of employees (Strauss et al. 2015; Parker, Williams, and Turner 2006; Parker, Wall, and Cordery 2001), and it is associated with work characteristics. Moreover, the theory of planned behavior explored critical antecedents and cognitive mechanisms of proactive behavior in the work contexts. Under this theory, learning goal orientation, perceived organizational support, and job autonomy were found to be associated with proactive behavior through attitudes, subjective norms and intention, and perceived behavioral control and intention, respectively (Shin and Kim 2015). Affective events theory (Weiss and Cropanzano 1996) provides another useful framework for conceptualizing and testing the underlying processes of the relationship between work characteristics and proactivity.

### **2.1. Defining Proactive Work Behavior**

Under the theory of work design, Grant and Parker (2009) identified the four forms of proactive behavior. These were proactive work behavior, proactive strategic behavior, proactive person-environment fit behavior, and proactive career behavior those with the antecedence of the work characteristics. An integrated and comprehensive form of three higher-order proactive behavior categories was identified by Parker and Collins (2010), as well as Parker, Bindl, and Strauss (2010) built up in their model as proactive work behavior, proactive strategic behavior, and proactive person-environment fit behavior. Among these higher order behaviors, the most prominent is proactive work behavior. Gaining knowledge of the underlying processes that link work characteristics with proactive work behavior is especially useful for a better understanding of the phenomenon of proactive behavior and thus necessary for extending theory development (Ohly and Schmitt 2016). Thus, we focus on the antecedents of proactive work behavior.

Proactive work behavior is a part of higher-order behavior that takes control and causes change inside the firm and workplace (Parker and Collins 2010a) which focused on higher-order improving the internal organization (Searle, 2014). A behavior contains four dimensions (taking charge, voice, individual innovation, and problem prevention (Khodayarkhani, Farmanesh, and Zargar 2021; Parker and Collins 2010). The former dimension taking charge is trying to bring about improved procedures in the workplace (Parker and Collins 2010) while voice emphasizes verbal communication and actively speaking up (Schmitt et al. 2016). The personal initiative focuses on overcoming barriers and challenges in the work environment in a broader sense however; we focus problem prevention on trying to find the root cause of things that go wrong (Parker and Collin, 2010). These behaviors concern taking control, and aiming to bring about change within, the internal organization environment (Parker and Collins 2010). Hence, proactive work behaviors have given notable attention to organizational behavior, which refers to self-starting anticipatory actions to optimize an individual's situation (Jia et al. 2020).

## **2.2. Determinants of Proactive Work Behavior**

In order to describe work more fully and predict proactive behavior, scholars found that the work characteristics dimensions including task, knowledge, social and contextual characteristics (Humphrey, Nahrgang, and Morgeson 2007; Morgeson and Humphrey 2006; Parker, Wall, and Cordery 2001). Thus, task characteristics determined proactive behavior (Dust and Resick, 2014). A knowledge characteristics has own impact on proactive behaviors of employees. Hence, "Employees with preferences for high levels of knowledge characteristics enjoy applying their unique knowledge and skills to ambiguous and uncertain work tasks" (Dust and Resick, 2014, 987). Employees with higher knowledge ability level are more likely to take active actions. Hence, knowledge is the corner stone of proactive work behavior (Parker et al., 2010). Dust and Resick (2014) also confirmed that knowledge characteristics determined proactive work behavior.

Different scholars also replied that social context factors were essential for stimulating collective proactive behavior (Menahem and Volberda 2013; Cai et al. 2019), social support and proactive behavior (Tornau and Frese 2012) in addition, "social context shapes individual decisions to be proactive" (Cai et al. 2019, 1). In this case; social characteristics directly affect proactive wrk

behavior. Similarly, context factor can facilitate positive outcomes for employees behaving proactively, and they seek to change their context to make it more receptive to proactivity” (Liu et al. 2019), job resource (equipment use) (Jia et al. 2020).

The four work traits have been found to be determinants of proactive work conduct with a linking mechanism of the energized state. In recent years, energized to state (positive affect) is an affective mechanism that has garnered attention (Lam, Spreitzer, and Fritz 2014) and is conducive to proactive behaviors (Parker, Bindl, and Strauss 2010). Thus, the study proposed;

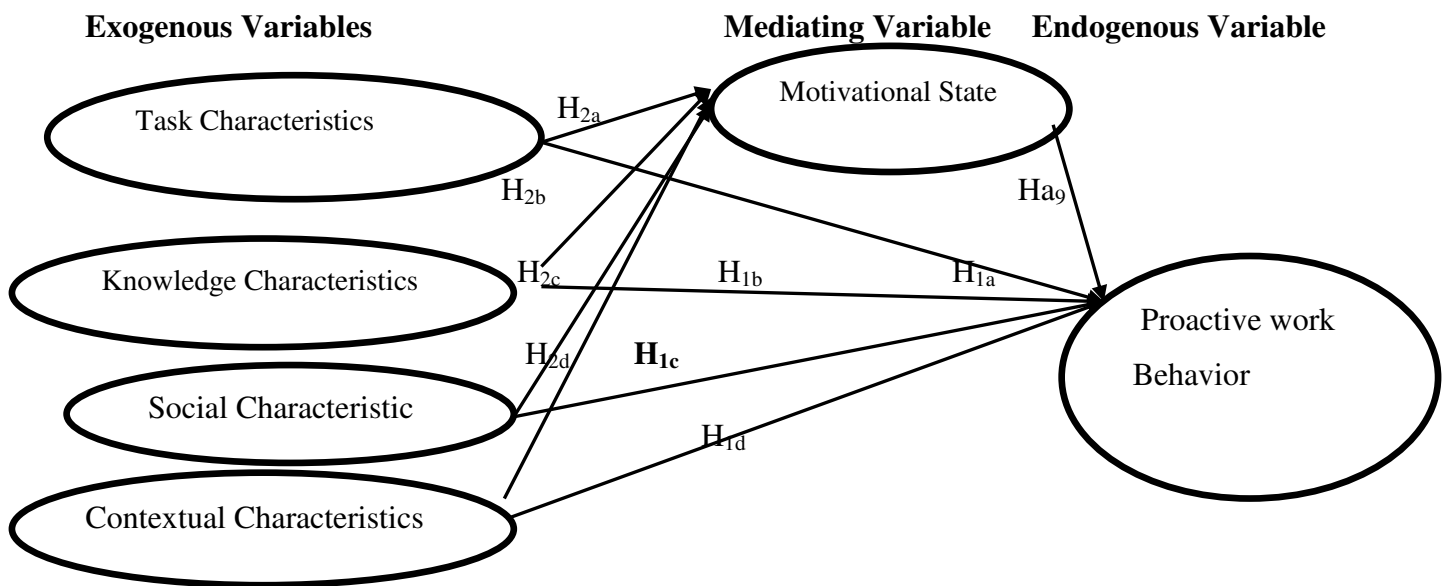
**Hypothesis 1 (H<sub>1</sub>):** There is a positive significant relationship between work characteristics (task characteristics (H<sub>1a</sub>), knowledge characteristics, (H<sub>1b</sub>), social characteristics (H<sub>1c</sub>), and contextual characteristics (H<sub>1d</sub>)) and proactive work behavior.

**Hypothesis 2 (H<sub>2</sub>):** There is a positive significant relationship between work characteristics (task characteristics (H<sub>2a</sub>), knowledge characteristics, (H<sub>2b</sub>), social characteristics (H<sub>2c</sub>), and contextual characteristics (H<sub>2d</sub>)) and motivational state.

**Hypothesis 3 (H<sub>3</sub>):** Motivational state has a positive significant effect on proactive work behavior.

**Hypothesis 4 (H<sub>4</sub>):** Motivational state mediates the link between work characteristics (task characteristics (H<sub>4a</sub>), knowledge characteristics, (H<sub>4b</sub>), social characteristics (H<sub>4c</sub>), and contextual characteristics (H<sub>4d</sub>)) and proactive work behavior.

Generally, researchers developed a conceptual framework of the study in figure1



**Figure 1:** Theoretical Frame Work of the Study

### **3. Objective of the study**

Objective of the study is to examine determinants of proactive work behavior by taking the motivational state as a mediator.

### **4. Methods of the Study**

Basically this study used PLS- SEM to examine determinants of proactive work behavior by taking the motivational state as a mediator as stated the objective set above. The researchers used survey (closed ended) questionnaire. Because the study is quantitative research approach and survey research design. Hence, survey questionnaire was the most preferable instrument. The researchers used close ended questionnaires. The main data base for realizing the research objectives and testing the hypothesis are to be fetched through the index, which would be in the form of carefully structured self administered and supervisory measured questionnaires. Different questionnaire (INDEX) were prepared and administered for each of the primary source. Industrial parks, the task, knowledge, social and contextual characteristics items, as well as proactive work behavior items that are believed to be judged by employees and supervisors would be lumped together forming EMPLOYEE QUESTIONNAIRE (INDEX), and SUPERVISOR QUESTIONNAIRE (INDEX). The number and the concepts of all the items were the same the only difference was the subject matter in which a self report questionnaire formed as "I--" while the supervisor ratings structured as "S/He--". Supervisors rated employees on the same work characteristics and proactive behavior scales as were completed by employees. We received a total of 279 questioners from samples of employees (#146), and their immediate supervisors (#133).

### **5. Data used**

The researchers distributed 350 questionnaires and collected 291 with a return rate of 83.14 %. Among the returned surveys, 279 (95.87) were usable while others were not properly filed and unused to those which were missing over 15% of their items. From 279 employees 147 (52.7 %) were male, and 132 (47.3%) were female respondents.

## **6. Data analysis**

### **6.1. Measurement Model**

This study used PLS-SEM, considered the measurement (outer) and the structural (inner) models. Based on these two models, the researcher explained the basic assumptions of PLS-SEM with higher order constructs. In application of PLS-SEM, using higher-order constructs are a noticeable and visible trend, which facilitate modeling a construct on a more abstract higher-level dimension (higher order component) and its more concrete lower-order sub dimensions (lower order components) (Sarstedt et al.2019). Although there are four types of higher order constructs Becker, Jan Michael, Kristina Klein, and Martin Wetzels (2012), a reflective formative model with repeated indicators approach was preferred for this study. Because it is the most prominent approach (Ringle et al. 2018;Hair et al. 2012) and produces smaller bias in the relationship between higher and lower order components (Becker, Jan Michael, Kristina Klein, and Martin Wetzels 2012).

#### ***6.1.1. Validating Lower Order Constructs***

The researchers used SMART PLS 3 to run the model. According to Hair et al. (2012) SMART PLS algorithm used to design the measurement model which explains the overall quality of the model. This study used a reflective-formative measurement model and determined 300 maximum iterations with a stop criterion of 7 using a path weighting scheme to run the SMART-PLS Algorithm. Reflective indicators are linked to the lower order constructs, and researchers should verify both the “reliability” and “validity” of the constructs (Murtala, Onukwube, and Yahaya 2019) considered the four parameters: (i) factor loadings, (ii) indicator reliability, (iii) convergent validity, and (iv) discriminate validity.

#### **Factor Loadings**

Before assessing the indicator reliability and validity, the researcher examines the indicator loadings in the initial model. Hair et al. (2012) recommended loadings should be above 0.70. They also show that the construct explains over 50 percent of the indicator’s variance, thus providing acceptable item reliability (Murtala, Onukwube, and Yahaya 2019).



As we proved that the outer loadings of the drafted model, from the work characteristics eight items and motivational state one item were loaded less than 0.5. The outer loads for other items ranged from 0.760 to 0.916. This shows that the structure explains over 50 percent of the variance of the indicator, thus giving acceptable item reliability. The researchers then disconnected the dimension nine factors that subsidized the smallest to the latent constructs from the dimension model to improve the model fit. After the researchers have done this process, the resultant final path model figure 1 was designed, and we should apply the model assessment in order to improve their reliability and validity.

### ***Composite Reliability***

Table 1, shown the composite reliability and average variance extracted of constructs. It is recommended to run two major (reliability and validity) tests to check the soundness of measurement schemes (Jr et al. 2008). In Table 1 the results for both Cronbach's Alpha and composite reliability are much higher than 0.7. The reliability of all first order constructs is over the threshold of 0.7 (Hair et al. 2012). Thus, construct reliability is established.

### ***Convergent Validity***

Validity in PLS-SEM measured as convergent validity (AVE) reflects the variable loadings on the construct and an assessment of redundancy (Sunil Kumar, 2015). Thus, average variance extracted (AVE) to evaluate convergent validity, and is acceptable when AVE is 0.50 or greater; suggesting that at least 50% of the variance of its products is explained by the construct (Murtala, Onukwube, and Yahaya 2019). The consequences of the AVE test Table 1 confirmed that the AVE scores constructs are greater than 0.67 or range from 0.671 -1.00. Hence, convergent validity was confirmed.

### ***Discriminate Validity***

Fornell-Larcker criterion: In the Fornell-Larcker criterion, each construct's AVE should be higher than its squared correlation with any other construct (Fornell and Larcker 1981). Table 2 showed the model's Fornell and Larcker criterion test where the squared correlations were compared to the correlations of other latent buildings, which demonstrates that all correlations were lower relative to the average square root of variance exerted along the diagonals, suggesting

adequate discriminating validity. Here, the discriminate validity is achieved when a diagonal value bold is higher than the value in its row and column.

Heterotrait-monotrait (HTMT) ratio of correlations can examine discriminate validity (Jr et al. 2008). The HTMT values are less than 0.85; it showed no discriminate validity problems (Hensler et al. 2009). Henseler, Ringle, and Sarstedt (2015) further explained bootstrapping can test whether the HTMT value differs significantly from 1.00 or a lower threshold value such as 0.85 or 0.90. Hence, HTMT should be defined based on the study context (Sarstedt et al. 2019). Thus, Table 3 shows that the value of HTMT for all constructs were less than 0.85 or 0.9 which showed that no discriminate validity problems.

Cross Loadings: It can examine discriminate validity (Jr et al. 2008), and each indicator should load highest on the construct (Chin 2013). Each indicator of the constructs was loaded higher than the cross loadings. This shows that cross-loading problems did not occur and the model has not discriminate validity issue.

**Table 1: Construct Reliability and Validity**

Constructs		Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Second order	First order			
TC	TAV	0.842	0.927	0.863
	TFB	0.879	0.925	0.805
	TTI	1.000	1.000	1.000
	TTV	0.795	0.907	0.830
KNC	KPS	0.907	0.935	0.783
	KSP	0.810	0.913	0.840
	KSV	0.801	0.909	0.834
	KIP	0.902	0.924	0.671
SC	SFD	0.834	0.923	0.857
	SID	0.869	0.920	0.793
	SIO	0.897	0.951	0.907
	SSS	0.893	0.926	0.757
CC	CER	0.896	0.935	0.828
	CEU	0.885	0.929	0.813
	CPD	0.847	0.929	0.867
	CWC	0.874	0.923	0.799
PAWB	WID	0.855	0.912	0.775
	WPP	0.920	0.949	0.861
	WTC	0.896	0.935	0.828
	WVO	0.918	0.942	0.803
-	MS	0.902	0.924	0.671

	ER	EU	PD	WC	IP	PS	SP	SV	CI	FI	FM	JC	FD	ID	IO	SS	AV	FB	TI	TS	TV	ID	WPP	WTC	WVO	
ER	<b>.910</b>																									
EU	.822	<b>.902</b>																								
PD	.815	.851	<b>.931</b>																							
WC	.840	.875	.864	<b>.894</b>																						
IP	.560	.549	.486	.549	<b>.934</b>																					
PS	.582	.580	.507	.563	.896	<b>.885</b>																				
SP	.517	.533	.444	.509	.769	.792	<b>.917</b>																			
SV	.616	.585	.523	.579	.826	.849	.771	<b>.913</b>																		
CI	.691	.688	.647	.670	.668	.683	.615	.660	<b>.912</b>																	
FI	.691	.684	.659	.677	.632	.649	.596	.647	.865	<b>.892</b>																
FM	.724	.706	.651	.691	.719	.747	.662	.726	.876	.879	<b>.943</b>															
JC	.701	.701	.634	.677	.644	.670	.612	.635	.869	.876	.876	<b>.925</b>														
FD	.603	.661	.611	.634	.515	.538	.453	.490	.608	.577	.584	.591	<b>.926</b>													
ID	.596	.631	.613	.600	.464	.467	.372	.423	.580	.538	.531	.558	.843	<b>.891</b>												
IO	.575	.597	.580	.579	.480	.501	.382	.452	.553	.499	.495	.510	.789	.822	<b>.952</b>											
SS	.594	.644	.603	.610	.460	.489	.388	.436	.568	.540	.548	.559	.866	.882	.827	<b>.870</b>										
AV	.609	.608	.568	.603	.589	.596	.596	.551	.641	.616	.674	.629	.567	.503	.507	.550	<b>.854</b>									
FB	.523	.476	.448	.457	.491	.538	.473	.502	.518	.476	.525	.464	.533	.467	.458	.540	.712	<b>.929</b>								
TI	.501	.460	.403	.450	.509	.549	.480	.504	.523	.479	.560	.491	.494	.417	.413	.503	.712	.886	<b>.897</b>							
TS	.513	.475	.426	.468	.493	.522	.481	.495	.477	.477	.529	.491	.516	.437	.423	.497	.690	.829	.836	<b>.000</b>						
TV	.490	.456	.421	.462	.475	.503	.479	.457	.535	.473	.541	.499	.506	.436	.415	.497	.749	.728	.771	.738	<b>.911</b>					
ID	.704	.691	.647	.684	.678	.743	.627	.708	.785	.787	.841	.798	.589	.541	.509	.559	.670	.538	.553	.553	.566	<b>.880</b>				
PP	.724	.719	.671	.697	.708	.732	.649	.721	.868	.873	.921	.869	.585	.530	.509	.534	.673	.530	.542	.499	.524	.864	<b>.928</b>			

Table 2: Fornell-Larcker Criterion

**6.1.2. Validating higher Order Latent Constructs**

In reflective formative higher order latent construct, a repeated indicator approach with mode B should be used which is a less biased, and a more reliable higher-order construct score (Becker, Klein, and Wetzels 2012). Proactive work behavior was the higher order endogenous construct while task, knowledge, social and contextual characteristics were the higher order exogenous constructs in the study. In order to establish these reflective-formative higher constructs outer weights, outer loadings, and VIF values (Sarstedt et al. 2019) were considered. In Table 3, the result shows that VIF value of all the constructs able to assessed co linearity which was less than 5 (Hair et al., 2016). The value of outer weights and outer loadings were above the threshold value. Thus, all the higher order constructs has no validity issues.

**Table 3: Validating Second and Third Order Constructs**

Constructs	Order of constructs	Outer weights	Outer loadings	VIF
CC	Second order	1.000	1.000	1.000
KNC	Second order	1.000	1.000	1.000
SC	Second order	1.000	1.000	1.000
TC	Second order	1.000	1.000	1.000
PAB	Third order	1.000	1.000	1.000

Note. CC= Contextual characteristics; KNC= Knowledge Characteristics; MS= Motivational States; PAB= Proactive Behavior; SC= Social Characteristics and TC= Task Characteristic

As a result, the suggested conceptual model was supposed to be acceptable, with confirmation of adequate composite reliability, convergent validity, and discriminate validity in lower and higher order constructs. Thus, the structural model can be run.

**6.2. Structural Model**

When the measurement model assessment is satisfactory, assessing the structural model is provided using the overall fit of the estimated model, the statistical significance and relevance of the path coefficients, the coefficient of determination (R2), and the blindfolding-based cross-

validated redundancy measure  $Q^2$  (Murtala, Onukwube, and Yahaya 2019). Based on these issues, we assessed the structural model for this study.

***Overall Fit of the Estimated Model***

The overall fit of the estimated model was determined through the bootstrap-based test with a standardized root mean square residual (SRMR) Measure. Henseler, Ringle, and Sarstedt (2015) pioneer the SRMR as a goodness-of-fit measure for PLS-SEM that can avoid model misspecification instead of a standard goodness-of-fit index (GFI) (Jr et al. 2008). The SRMR as a measure of approximate fit to get empirical evidence for the proposed theory and its preliminary value suggested below 0.10 or 0.080, showing an acceptable or good model fit (Murtala, Onukwube, and Yahaya 2019). As shown in Table 4, the value of SRMR was 0.045 and below 0.08. Thus, the result suggests that something well suited to the proposed model for confirming and explaining the existing theory.

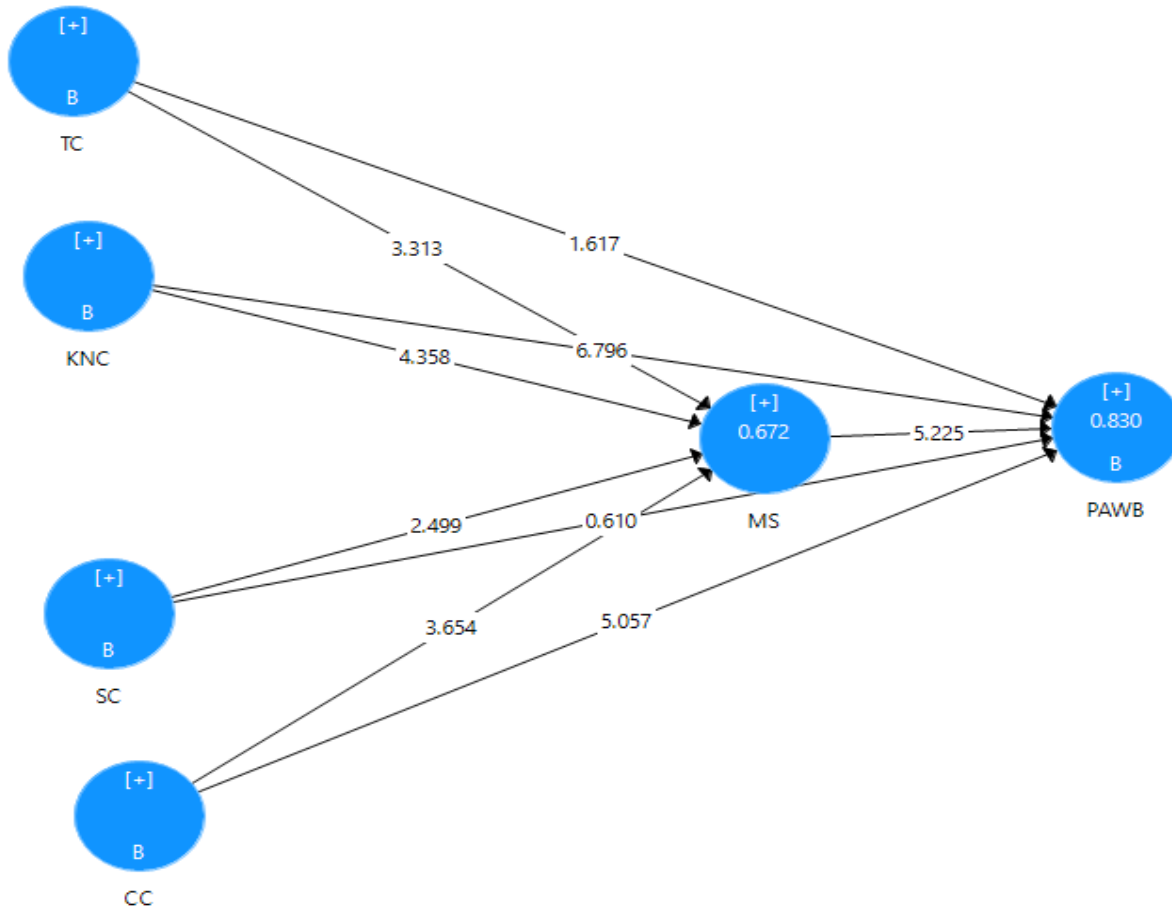
**Table 4:** *Model Fit*

	Saturated Model	Estimated Model
SRMR	0.045	0.045

***The Statistical Significance and Relevance of the Path Coefficients***

The bootstrapping procedure was used to evaluate the significance of the hypothesis (Hair et al. 2012). To test the significance of the path coefficient and T-statistics values, the researchers carried out a bootstrapping procedure using 5000 sub-samples with no significant changes and 279 cases.

Table 5 and figure 2 show the structural model of the path coefficients. Contextual characteristics, knowledge characteristics, and motivational state revealed a significant positive relationship with proactive work behavior,  $\beta = (0.316, 0.332 \ \& \ 0.331)$ , t value = (5.057, 6.796 & 5.225 > 1.96), and all p-value = (0.000 < 0.05), respectively. However, social and task characteristics are insignificant to proactive work behavior. Contextual, knowledge, social and task characteristics show a significant positive relationship with the motivational state,  $\beta = (0.312, 0.259, 0.189 \ \& \ 0.206)$ , t value = (3.54, 4.358, 2.499 & 3.313 > 1.96), and p-value = (0.000, 0.000, 0.012 & 0.001 < 0.05 respectively).



**Figure 2:** *The Inner Model of PLS- SEM*

**The Mediating Effect of Motivational State**

To investigate the mediating role of motivational state on determinants of proactive work behavior (task, knowledge, social and contextual characteristics) and proactive work behavior, the researcher applied a Bootstrapping analysis. The finding shows the relationship between the exogenous and endogenous latent variables as full mediating and partial mediating, depending on p-values and t-statistics. The direct and indirect effect of exogenous latent variables explained partial and full mediation on endogenous latent variables.

As shown in Table 5 as well as Figure 2, the direct and indirect effect of contextual, knowledge, social, and task characteristics on proactive work behavior posit results of hypothesis testing based on the PLS-SEM relationship among the latent constructs. Direct effect is the impact of

exogenous latent constructs (TC, KNC, SC and CC) on endogenous latent construct (PAWB) in presence of mediator (MS) and explained by path coefficient in SMART PLS. The result shows that contextual and knowledge characteristics determine proactive work behavior with  $\beta = (0.316 \& 0.332)$ , t value =  $(5.057 \& 4.358 > 1.96)$ , and p-value =  $(0.000 < 0.05)$ , respectively. However, task and social characteristics have no significant effect on proactive work behavior. Hypothesis 1b & d are accepted, while Hypothesis's 1a & c are rejected.

The result of specific indirect effect found that all four exogenous latent constructs (TC, KNW, SC and CC) significantly determine proactive work behavior through motivational state,  $\beta = (0.068, 0.086, 0.063 \& 0.103)$ , t value =  $(2.840, 3.564, 2.200 \& 2.820 > 1.96)$  and p-value =  $(0.005, 0.000, 0.028, \& 0.005 < 0.05)$  respectively, hypothesis 4 a, b, c & d are supported (accepted). This test reveals that employee motivational state has standardized indirect effect between CC and PWPB, KNW and PWPB, SC and PWPB, and TC and PWPB of 10.4 %, 8.4 %, 6.3 % and 6.7 % ( $p = 0.002, 0.000, 0.013, \& 0.008 < 0.05$ ). This means that if CC, KNC, SC, and TC effect on PWPB through MS increases one standard deviation from its mean that will lead to an increase in PWPB standard deviations by 0.037, 0.024, 0.028 and 0.024 from its mean holding all other model variables are constant.

**Table 5:** *Direct and indirect effect*

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	PValues
<b>Direct effect</b>					
CC -> MS	0.312	0.313	0.085	3.654	0.000
CC -> PAWB	0.316	0.315	0.063	5.057	0.000
KNC -> MS	0.259	0.258	0.059	4.358	0.000
KNC -> PAWB	0.332	0.335	0.049	6.796	0.000
MS -> PAWB	0.331	0.329	0.063	5.225	0.000
SC -> MS	0.189	0.192	0.076	2.499	0.012
SC -> PAWB	-0.027	-0.028	0.045	0.610	0.542
TC -> MS	0.206	0.203	0.062	3.313	0.001
TC -> PAWB	0.081	0.081	0.050	1.617	0.106
<b>In direct effect</b>					
CC -> MS -> PAWB	0.103	0.104	0.037	2.820	0.005
KNC -> MS -> PAWB	0.086	0.084	0.024	3.564	0.000
SC -> MS -> PAWB	0.063	0.063	0.028	2.200	0.028
TC -> MS -> PAWB	0.068	0.067	0.024	2.840	0.005

Note. CC= Contextual characteristics; KNC= Knowledge Characteristics; MS= Motivational States; PAPB= Proactive Work Behavior; SC= Social Characteristics and TC= Task Characteristics

Based on the findings showing, the researcher defined direct and indirect effect, partial, and full mediation of the motivational state. Thus, the motivational state partially mediates the link between exogenous latent constructs (task, knowledge, and contextual characteristics) and the

endogenous latent construct (proactive work behavior). Hence, the direct effect and indirect effect both are meaningful.

There is a full mediation between social characteristics and proactive work behavior because the direct effect is insignificant and the indirect effect is significant. As shown in Table 6, social characteristics have no total significant effect on proactive work behavior, while task, knowledge, and contextual characteristics have a significant positive effect on proactive work behavior. This means that without the mediating role of the motivational state, social characteristics did not determine proactive work behavior.

**Table 6:** *Total Effect*

Constructs	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
CC -> MS	0.312	0.313	0.085	3.654	0.000
CC -> PAWB	0.420	0.418	0.075	5.578	0.000
KNC -> MS	0.259	0.258	0.059	4.358	0.000
KNC -> PAWB	0.418	0.420	0.052	8.008	0.000
MS -> PAWB	0.331	0.329	0.063	5.225	0.000
SC -> MS	0.189	0.192	0.076	2.499	0.012
SC -> PAWB	0.035	0.035	0.058	0.605	0.545
TC -> MS	0.206	0.203	0.062	3.313	0.001
TC -> PAWB	0.149	0.148	0.049	3.063	0.002

Note. CC= Contextual characteristics; KNC= Knowledge Characteristics; MS= Motivational States; PAPB= Proactive work Behavior; SC= Social Characteristics and TC= Task Characteristics.

***Coefficient of Determination (R<sup>2</sup>)***

The R<sup>2</sup> is a measure of the model’s predictive accuracy (Jr et al., 2008). As a “rough” rule of thumb, an acceptable R<sup>2</sup>, with 0.75, 0.50, and 0.25, respectively, describes substantial, moderate, or weak levels of predictive accuracy (Ringle and Sinkovics 2004). While (Murtala, Onukwube, and Yahaya 2019) replied that the expected magnitude of R<sup>2</sup> depends on the phenomenon investigated. For instance, Sarstedt et al. (2019) explained that R<sup>2</sup> values greater than 0.90 in a model that predicts human attitudes, perceptions, and intentions could likely show overfit while



greater the number of predictor constructs leads to higher  $R^2$ . In this study, the value of  $R^2$  value was less than 0.9, having a predictor of five constructs.

Table 7 shows that the coefficient of determination,  $R^2$ , is 0.83 for the proactive work behavior and 0.672 for the motivational state as an endogenous latent construct. This means that the five latent constructs (task characteristics, knowledge characteristics, social characteristics, contextual characteristics, and motivational state) substantially explain 83 % of the variance in PAWB while, task, knowledge, social characteristics, and contextual characteristics collectively explain 67.2% of the variance of motivational state.

**Table 7:** *Coefficients of Determination*

	R Square	R Square Adjusted
MS	0.672	0.667
PAWB	0.83	0.827

***Cross-Validated Redundancy ( $Q^2$ )***

$Q^2$  is a means for assessing the inner model’s predictive relevance, and having a value larger than zero for a particular endogenous construct indicates the path model’s predictive relevance for this construct (Jr. et al. 2008). Table 8 showed that  $Q^2$  was 0.441 and 0.802 and which were larger than zero in Two endogenous constructs (MS and PAWB). This means that the model is accurate and that the constructs are important for the general change of the model.

**Table 8:** *Construct cross validated redundancy*

	SSO	SSE	$Q^2 (=1-SSE/SSO)$
CC	279.000	279.000	
KNC	279.000	279.000	
MS	1674.000	936.458	0.441
PAWB	279.000	55.135	0.802
SC	279.000	279.000	
TC	279.000	279.000	

**5. Discussions**

Based on the findings of this study, we briefly discussed determinants of proactive work behavior (task, knowledge, social and contextual characteristics) and mediating role of maotivational state

between determinants and proactive work behavior. The work designs has been containing these four major work characteristics determine proactive work behavior (Grant and Parker 2009). Our result suggests that there is a positive significant relationship between task characteristics and proactive work behavior. More specifically, all the task characteristics including job autonomy, task variety, task significance, task identity, and feedback from job were positively predict proactive work behavior. Although proactive work behavior is initiated by employees themselves rather than prescribed or directed by others, task characteristics are better to determine proactivity of employees. In order to bring about change, self-initiated and future-oriented actions should be needed (Parker et al. 2006; Schmitt et al. 2016), these can be proved through well established task characteristics exist in the work environment. Theoretical models predict the work characteristics lead to proactive behavior (Hartog and Belschak 2016). Task characteristics determined proactive work behavior (Dust and Resick 2014). The result of this study is consistent with the theories and previous empirical findings.

Employees having higher knowledge with an ability to handle job complexity, information processing, problem solving, and skill variety, are more likely to take active actions. Our result confirmed that knowledge characteristics was positively significant relationship with proactive work behavior. This result is consistent with previous results (e.g. Dust and Resick 2014; Parker, Bindl, and Strauss 2010).

The result of this study also shows that there is a positive significant relationship between contextual characteristics and proactive work behavior. The contextual characteristics with ergonomics, physical demands, work conditions, and equipment use are an antecedent of proactive work behavior. Our finding is similar with previous studies such as (Jia et al. 2020b; (Kapogiannis, Fernando, and Alkhard 2021; Liu et al. 2019 ; Parker, Bindl, and Strauss 2010).

However there was no positive significant association between social characteristics and proactive work behavior. With this regard studies were devoted the direct and indirect relationship between these constructs. Some of scholars found social characteristics directly linked to proactive work behavior (Cai et al. 2019; Menahem and Volberda 2013; Tornau and Frese 2012) while others said indirectly (Sonnentag and Starzyk 2015; Zhang, Law, and Yan 2015b). On the other side De Stobbeleir, Ashford, and Zhang (2020) shown that proactive

behaviors more focused on relationships which create, maintain, or improve relationships. This shows that social characteristics did not affect proactive work behavior.

## 6. Conclusion

The aim of our study is to examine determinant factors of proactive work behavior (task, knowledge, social and contextual) characteristics by taking motivational state as a mediating role. Based on our findings, we draw the conclusion. First, employee proactive work behavior was most likely determined by task, knowledge, and contextual factors as well as motivational state; however, social characteristics did not directly determine proactive work behavior. Secondly, the four work characteristics traits directly associated with energized to state. Thirdly, motivational state, partially mediates the relationship between work characteristics (i.e. task, knowledge, and contextual characteristics) and proactive work behavior while fully mediates between social characteristics and proactive work behavior. Finally, We call for future research to replicate our findings and to extend our model by identifying more employee outcomes regarding proactive work behavior and social characteristics and given emphasis the indirect relationship between social characteristics and proactive work behavior through motivational state or better to find out the influence of proactive work behavior on social characteristics.

## Reference

1. Becker, Jan Michael, Kristina Klein, and Martin Wetzels. 2012. "Hierarchical Latent Variable Models in PLS-SEM: Guidelines for Using Reflective-Formative Type Models." *Long Range Planning* 45 (5–6): 359–94.
2. Ben-Menahem, Shiko M., and Henk W. Volberda. 2013. "The Impact of Task-, Social-, and Environmental Context Characteristics on Firm Proactiveness." In *Academy of Management 2013 Annual Meeting, AOM 2013*, 491–95. *Academy of Management*.
3. Cai, Zijun, Sharon K. Parker, Zhijun Chen, and Wing Lam. 2019. "How Does the Social Context Fuel the Proactive Fire? A Multilevel Review and Theoretical Synthesis." *Journal of Organizational Behavior* 40 (2): 209–30.
4. Cha, Jae Min, Seung Hyun "James" Kim, Jeff Beck, and Bonnie J. Knutson. 2017. "Predictors of Career Success Among Lodging Revenue Managers: Investigating Roles of Proactive Work Behaviors." *International Journal of Hospitality and Tourism Administration* 18 (4): 474–90.

5. *Dust, Scott B., and Christian J. Resick. 2014. "Work Characteristics and Employee Performance: Does Needs-Supply Congruence Matter?" In 74th Annual Meeting of the Academy of Management, AOM 2014, 985–90. Academy of Management.*
6. *Fornell, Claes, and David F Larcker. 1981. "Evaluating Structural Equation Models with Unobservable Variables and Measurement" XVIII (February): 39–50.*
7. *Gonzã, Javier. 2005. "Environmental Proactivity and Business Performance: An Empirical Analysis" 33: 1–15.*
8. *Grant, Adam M., and Sharon K. Parker. 2009. "7 Redesigning Work Design Theories: The Rise of Relational and Proactive Perspectives." The Academy of Management Annals 3 (1): 317–75.*
9. *Hair, Joe F, Marko Sarstedt, Christian M Ringle, and Jeannette A Mena. 2012. "An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research," 414–33.*
10. *Henseler, Jörg, Christian M. Ringle, and Marko Sarstedt. 2015. "A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling." Journal of the Academy of Marketing Science 43 (1): 115–35.*
11. *Hirschi, Andreas, Bora Lee, Erik J. Porfeli, and Fred W. Vondracek. 2013. "Proactive Motivation and Engagement in Career Behaviors: Investigating Direct, Mediated, and Moderated Effects." Journal of Vocational Behavior 83 (1).*
12. *Humphrey, Stephen E, Jennifer D Nahrgang, and Frederick P Morgeson. 2007. "Integrating Motivational , Social , and Contextual Work Design Features : A Meta-Analytic Summary and Theoretical Extension of the Work Design Literature" 92 (5): 1332–56.*
13. *Jia, Jianfeng, Jiaqi Yan, Asghar Afshar Jahanshahi, Weipeng Lin, and Amitab Bhattacharjee. 2020. "What Makes Employees More Proactive? Roles of Job Embeddedness, the Perceived Strength of the HRM System and Empowering Leadership." Asia Pacific Journal of Human Resources 58 (1): 107–27.*
14. *Jr, Joe F Hair, Lucas Hopkins, Middle Georgia, and State College. 2008. "Partial Least Squares Structural Equation Modeling ( PLS-SEM ) An Emerging Tool in Business Research."*
15. *Kapogiannis, Georgios, Terence Fernando, and Ahmed Mohammed Alkhard. 2021. "Impact of Proactive Behaviour Antecedents on Construction Project Managers' Performance." Construction Innovation.*
16. *Khodayarkhani, Arian, Panteha Farmanesh, and Pouya Zargar. 2021. "Mapping the Relationship between Proactive Behavior and Talent Management Practices : The Me- Diating Role of Organizational Commitment" 11: 773–82.*
17. *Lam, Chak F U, Gretchen Spreitzer, and Charlotte Fritz. 2014. "Too Much of a Good Thing :*

- Curvilinear Effect of Positive Affect on Proactive Behaviors*” 546 (September 2013): 530–46.
18. Liu, Wu, Subrahmaniam Tangirala, Cynthia Lee, and Sharon K. Parker. 2019. “New Directions for Exploring the Consequences of Proactive Behaviors: Introduction to the Special Issue.” *Journal of Organizational Behavior*. John Wiley and Sons Ltd.
  19. Marchetta, G. 2011. “Computers in Industry A Reference Framework Following a Proactive Approach for Product Lifecycle Management” 62: 672–83.
  20. Morgeson, Frederick P., and Stephen E. Humphrey. 2006. “The Work Design Questionnaire (WDQ): Developing and Validating a Comprehensive Measure for Assessing Job Design and the Nature of Work.” *Journal of Applied Psychology* 91 (6): 1321–39.
  21. Murtala, Ango, Henry N Onukwube, and Mohammed Yahaya. 2019. “Partial Least Square Structural Equation Modeling (PLS-SEM): A NOTE FOR BEGINNERS.” *International Journal of Environmental Studies and Safety Research* , no. December 2019.
  22. Parker, Sharon K., Uta K. Bindl, and Karoline Strauss. 2010. “Making Things Happen: A Model of Proactive Motivation.” *Journal of Management* 36 (4): 827–56.
  23. Parker, Sharon K., and Catherine G. Collins. 2010. “Taking Stock: Integrating and Differentiating Multiple Proactive Behaviors.” *Journal of Management* 36 (3): 633–62.
  24. Parker, Sharon K., Helen M. Williams, and Nick Turner. 2006. “Modeling the Antecedents of Proactive Behavior at Work.” *Journal of Applied Psychology* 91 (3): 636–52.
  25. Parker, Sharon K, Toby D Wall, and John L Cordery. 2001. “Future Work Design Research and Practice: Towards an Elaborated Model of Work Design.” *Journal of Occupational and Organizational Psychology*. Vol. 74.
  26. Permata, Febrina D., and Wustari L. Mangundjaya. 2021. “The Role of Work Engagement in the Relationship of Job Autonomy and Proactive Work Behavior for Organizational Sustainability.” *In IOP Conference Series: Earth and Environmental Science*. Vol. 716.
  27. Ringle, Christian M, Marko Sarstedt, Rebecca Mitchell, and P Siegfried. 2018. “Partial Least Squares Structural Equation Modeling in HRM Research.” *The International Journal of Human Resource Management* 5192 (January): 1–27.
  28. Ringle, Christian M, and Rudolf R Sinkovics. 2004. “The Use Of Partial Least Squares Path Modeling In International Marketing” 20 (2009): 277–319.
  29. Sarstedt, Marko, Joseph F. Hair, Jun Hwa Cheah, Jan Michael Becker, and Christian M. Ringle. 2019. “How to Specify, Estimate, and Validate Higher-Order Constructs in PLS-
  30. Schmitt, Antje, Deanne N. Den Hartog, and Frank D. Belschak. 2016a. “Transformational Leadership and Proactive Work Behaviour: A Moderated Mediation Model Including Work Engagement and Job Strain.” *Journal of Occupational and Organizational Psychology* 89 (3):

588–610.

31. Sonnentag, Sabine, and Anita Starzyk. 2015. "Perceived Prosocial Impact, Perceived Situational Constraints, and Proactive Work Behavior: Looking at Two Distinct Affective Pathways." *Journal of Organizational Behavior* 36 (6): 806–24.
32. Stobbeleir, Katleen De, Susan Ashford, and Chen Zhang. 2020. "Shifting Focus: Antecedents and Outcomes of Proactive Feedback Seeking from Peers." *Human Relations* 73 (3): 303–25.
33. Strauss, Karoline, Mark A. Griffin, Sharon K. Parker, and Claire M. Mason. 2015. "Building and Sustaining Proactive Behaviors: The Role of Adaptivity and Job Satisfaction." *Journal of Business and Psychology* 30 (1): 63–72.
34. Tornau, Katharina, and Michael Frese. 2012. "Construct Clean-Up in Proactivity Research : A Meta-Analysis on the Nomological Net of Work-Related Proactivity Concepts and Their Incremental Validities."
35. Zhang, Melody Jun, Kenneth Law, and Ming Yan. 2015. "Benefiting Others at Work as a Drive: Job Prosocial Impact and Employee Proactive Work Behavior." In *75th Annual Meeting of the Academy of Management, AOM 2015*, 1286–91. Academy of Management.