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THE EFFECT OF DISRUPTIVE FACTORS ON INVENTORY CONTROL AS A MEDIATOR AND ORGANIZATIONAL PERFORMANCE IN HEALTH DEPARTMENT OF PUNJAB, PAKISTAN

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ABSTRACT

The organizational performance at Punjab healthcare is crucial and often faces stock-outs of critical medicines and equipment at the emergency department of different hospitals, which increased the mortality rate. Therefore, the study determined the effect of disruptive factors and inventory control as a mediator on organizational performance. The quantitative method with survey questionnaires on a 200 sample size through cluster sampling was used. SPSS and AMOS were used to examine Exploratory Factor Analysis, Confirmatory Factor Analysis, and Structural Equation Modeling. The results found full mediation with a significant positive effect between study variables. The finding indicated that the strict compliance of standardized operating procedures, professionally well-equipped staff, stock availability, and accurate inventories could reduce costs with improved service quality. This study is useful to the public healthcare facilities, ministries managing inventories, and to the body of knowledge. Finally, the back-log inventories at public sector organizations need to be researched in the future.

Contribution/Originality: This study is one of very few investigating the mediating effect of inventory control on the relationship between disruptive factors and organizational performance. The study also contributes a second-order construct model, identifying the dimensions within those constructs, to the existing literature.

1. INTRODUCTION

According to Rashid., Amirah, and Yusof (2019) organizational performance is a crucial entity, especially the healthcare performance as it involves the patients, clinicians, broader public, and the government. Besides, public healthcare facilities usually are criticized and alleged for poor accountability, misuse of resources, and maladministration (Silva & Ferreira, 2010). Because of the vital role of healthcare, in budget 2015-16, the Health Department allocated 168 billion rupees (PKR) for primary and secondary healthcare (Rashid. et al., 2019). Despite having a colossal amount, the increased mortality rate upshot. Only in December 2015, the Punjab Institute of Cardiology found 112 deaths and 46,000 patients at high risks due to stocked-out and expired batches of curative accessories and medicines. The Department of Health went through hasty buying cost 5.6 billion PKR with 56 million PKR for compensation of dead victims. The shortage of Hepatitis C (HVC) vaccine was found at 98 out of

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145 hospitals. The infant mortality was 89 per thousand, which were 78 per thousand in 2008. The maternal mortality rate was 227 out of 276 per 100,000 from the whole country. Further, the ranking of at 149th position in world healthcare shows the worseness (Rashid. & Amirah, 2017).

The stated issues conclude that performance at healthcare significantly varies from conventional services (Shabbir, Malik, & Malik, 2016). At the same time, public healthcare facilities are less autonomous in managerial matters and force the staff to act for un-conditional conformity on the stake of public health (Cheon, 2016). Since the department involves lifesaving products, therefore public healthcare facilities necessitate empirical findings for disruptive factors, inventory control as a mediator, and organizational performance.

1.1. Research Question and Objectives

The research questions would broadly discover the strategic importance of specific disruptive factors (bureaucratic procedures, BP) and role of inventory control (IC) in the organizational performance (OP); whereas in detail, following objectives will address the problem statement:

1. To determine the effect of BP on IC.
2. To determine the effect of BP on OP.
3. To determine the effect of IC on OP.
4. To determine the mediating effect of IC in the relationship between BP and OP.

2. RELEVANT THEORY

Theories have imperative importance to answer the research questions in quantitative research (Creswell, 2014). Therefore, Resource-Based View Theory was used to find the effect of variables.

2.1. Resource-Based View Theory

RBV theory was emerged through "Firm Resources and Sustained Competitive Advantage," written by Barney (1991). It was widely cited to develop RBV theory based on Wernerfelt (1984) "Resource Position Barriers" by explaining the approaches to sustain a unique position in viable situations (Hoopes, Madsen, & Walker, 2003). Besides, the RBV theory has two main conjectures. The first is, within an industry, the organizational resources may differ, and the second is, across organizations, those resources might not be entirely mobile. The main emphasis of RBV theory is on the resources and capabilities that could involve efficient procedures and processes, contracts, capital, machinery, technology, skills, abilities, employee knowledge, and brand names (Wernerfelt, 1984).

2.1.1. Implication of the Resource-Based View Theory

According to Shibin, Gunasekaran, and Dubey (2017) RBV theory overcomes the challenges in inventory control by emerging the significant resources, which contributes indirectly or directly to achieve better organizational performance through organizational resources. RBV theory could also be implied individually to know the procedures, processes, competencies, capabilities, and skills to remove deficiencies.

3. RELATED PREVIOUS RESEARCH

Over time, inventory management became an integral part of every business due to the invested huge capital (Samuel & Ondiek, 2014). However, efficient management of inventories reduce costs and operational expenses and provides sustainable supplies (Baily., F., David, & David, 2002; Pritchard, Gracy, & Godwin, 2010). Therefore, proper procedures for each functional area of business units is imperative (Hashmi, Amirah, & Yusof, 2020a). Previous research empirically proved that standardized procedures tremendously elevate production, scheduling, planning to maintain the required level of stocks, and eliminate stoppages (Hashmi, Amirah, & Yusof, 2020b).

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The field of supply chain management is increasingly applying theories (Hsu, Tan, Kannan, & Keong Leong, 2009). Therefore, this study used the RBV theory to develop a research model. Figure 1 demonstrates two independent variables, one dependent variable, and one mediator to examine the mediation effect between the relationship of the exogenous and endogenous variables, and developed four hypotheses (direct hypothesis: H1, H2, and H3; and hypothesis related to mediation: H4).

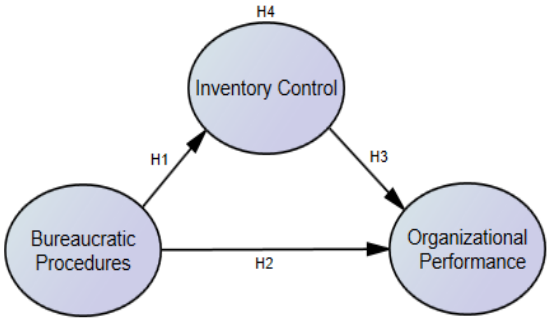

Figure-1. Proposed research model.

3.1. Research Hypotheses

Based on the proposed research model, the research hypotheses were developed as below:

1. H1: BP has a positive effect on IC.
2. H2: BP has a positive effect on OP.
3. H3: IC has a positive effect on OP.
4. H4: IC mediates the relationship between BP and OP.

4. DATA ANALYSIS AND FINDINGS

The study is cross-sectional and followed the positivism research philosophy. Positivism advocates for quantitative research (Creswell, 2014). Further, the survey method using a structured questionnaire on an interval scale was carried out to validate the research hypothesis (Awang, 2015; Rusli & Hasbee, 2011). This research performed Exploratory Factor Analysis (EFA) in IBM SPSS version 22.0 and Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) in IBM SPSS AMOS version 22.0. A total of 2899 healthcare facilities of Punjab were divided into nine divisions (clusters), and from nine divisions, one district from each division constituted a sampling frame of 343 healthcare facilities. Later, 200 respondents were selected randomly to generalize the population characteristics (Hair, Black, Babin, & Anderson., 2010). Besides, the demographic attributes of respondents and descriptive analysis were also examined to check the pragmatic effects.

4.1. Exploratory Factor Analysis (EFA)

According to Worthington and Whittaker (2006) EFA and CFA framework is a scale validation procedure but on different sample sizes. Therefore, the EFA procedure was performed on 100 respondents. Further, varimax with principal axis factoring was used to examine 28 items. Varimax is an orthogonal rotation and considers no correlation between the resulted components or factors (Hashmi et al., 2020b). Table 1 summarized the results of the rotated factor matrix for each variable, where three items with factor loadings < 0.60 were removed one by one with re-running the analysis for that specific variable. Resultantly, 25 items were retained for further analysis with no cross-loadings > 75% on any other item, and the eigenvalues of one were opted to extract the number of factors (Field, 2013; Hair et al., 2010). The EFA procedure was performed on 100 respondents for which, statistical assumptions and EFA results are as follows:

- Kaiser-Meyer-Olkin (KMO) values found acceptable > 0.60, with 0.851 for BP, 0.852 for IC, and 0.809 for OP (Kaiser, 1974; Rashid. et al., 2019). Whereas, Bartlett's test of sphericity was significant with $p < 0.001$

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(Field, 2013).

- Communalities value for each item was > 0.2 that mean the communalities will not signify additional factors (Hashmi et al., 2020a).
- Total variance explained was 62 percent for the first two factors of BP, 60 percent for first two factors of IC, and 61 percent for first two factors of OP, which are > 50 percent. Likewise, the variance for the first factor of each construct was < 50 percent (Hashmi et al., 2020b).

Table-1. Summarized results of rotated factor matrix.

Items	BP Factors		IC Factors		OP Factors	
	1	2	1	2	1	2
BP2	0.904					
BP1	0.807					
BP5	0.798					
BP3	0.702					
BP4	0.474					
BP8		0.810				
BP9		0.746				
BP6		0.738				
BP7		0.703				
IC2			0.825			
IC1			0.808			
IC4			0.791			
IC3			0.655			
IC7				0.778		
IC6				0.727		
IC5				0.713		
IC8				0.678		
OP9					0.949	
OP8					0.887	
OP10					0.816	
OP11					0.759	
OP7					0.470	
OP6						0.846
OP3						0.834
OP4						0.750
OP2						0.746
OP1						0.698
OP5						0.491

Notes: Factor loadings < 0.60 were removed

4.2. Demographic Attributes of Respondents

The demographic breakdown of respondents expressed in Table 2, explaining that the male and female contribution was 91.5 percent (n=183) and 8.5 percent (n=17), respectively. The contribution of different age groups for 20-30 years was 70.5 percent (n=141), 31-40 years 25.5 percent (n=51), and 04 percent (n=8) for 41-50. Furthermore, 77 percent (n=154) and 23 percent (n=46) respondents were single and married, respectively. The education of respondents was with 8.5 percent (n=17) of master degree holders, 47 percent (n=94) of bachelors, 26 percent (n=52) of diploma, 11.5 percent (n=23) high school, and 07 percent (n=14) of others. Lastly, the 06 percent (n=12) respondents were with experience less than 02 year, 43.5 percent (n=87) were having experience 02-05 years, 26.5 percent (n=53) were from the group of 06-10 years, 16.5 percent (n=33) were from 11-15 years, and 7.5 percent (n=15) were from 15+ years of service.

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Table-2. Demographic breakdown of respondents.

Demographic Profile	Category	Frequency (n = 200)	%
Gender	Male	183	91.5
	Female	17	8.5
Age	20 – 30 years	141	70.5
	31 – 40 years	51	25.5
	41 – 50 years	8	4
Marital Status	Single	154	77
	Married	46	23
Education	Masters	17	8.5
	Bachelors	94	47
	Diploma	52	26
	High School	23	11.5
	Others	14	7
Years of Service	Less than 2 Year	12	6
	2 – 5 Years	87	43.5
	6 – 10 Years	53	26.5
	11 – 15 Years	33	16.5
	15+ Years	15	7.5

Notes: n= number of respondents.

4.3. Descriptive Analysis

The descriptive analysis evaluated the mean and standard deviation for each item on a point-five Likert scale (1 strongly disagree – 5 strongly agree). The results in Table 3 suggest that the items and the variables comprised good enough scores. The mean values for the variables, namely, BP, IC, and OP have 3.98, 4.02, and 4.01, respectively. The scores are representing that the maximum number of respondents are agreed on the important role of BP and IC in OP (Rashid, 2016; Yusof, Awang, Jusoff, & Ibrahim, 2017).

Table-3. Descriptive analysis results.

Construct	Items	Mean
Bureaucratic procedures (BP) Mean = 3.98	BRR1: adequate standing operating procedures.	3.91
	BRR2: long bureaucratic related purchase difficulties.	4.02
	BRR3: storekeepers have full independence.	3.92
	BRT4: long bureaucratic practice affects activities.	3.96
	BRT5: organization is planning with maximum red tapes.	3.95
	BRT6: too much paperwork during feedback.	4.02
	BRT7: need thorough improvement with the least paperwork.	4.01
	BRT8: over-reliance on paperwork.	4.07
Inventory Control (IC) Mean = 4.02	ICS1: often face stock-out of essential items.	4.03
	ICS2: always have buffer stock.	4.03
	ICS3: determining inventory order size is crucial.	4.02
	ICS4: most of the deliveries are delayed.	4.00
	ICA5: experiencing discrepancies in-stock balance.	4.07
	ICA6: inaccurate inventories are being handled.	3.98
	ICA7: physical inventory varies from the system stock.	4.06
	ICA8: ability to improve inventory accuracy.	4.00
Organizational Performance (OP) Mean = 4.01	OPC1: frequently goes with hasty buying.	4.08
	OPC2: expired, obsolescence, and damaged items in stores.	4.03
	OPC3: determine optimization.	4.08
	OPC4: cost at the expense of stocked-out effects.	4.09
	OPSQ5: bed occupancy rate (BOR) is high.	3.36
	OPSQ6: X-rays and lab equipment are sufficient.	3.95
	OPSQ7: stock handlers are essential for quality deliverance.	3.93
	OPSQ8: effective mechanisms help clients efficiently.	3.96
	OPSQ9: overall, productivity is being achieved.	3.95

Notes: BRR, bureaucratic procedures with rigid rules; BRT, bureaucratic procedures with red tapes; ICS, inventory stocks; ICA, inventory accuracy; OPC, cost; OPSQ, service quality.

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4.4. Measurement Model Assessment

The measurement model refers to the validation procedure. Figure 2 expressing a model of second-order with three main-constructs and six sub-constructs, for which, a pooled CFA was preferred over individual CFA. According to Hashmi et al. (2020b) pooled CFA has no constraint in model identification if any construct contains less than four items. Besides, the model was examined through unidimensionality, validity, and reliability.

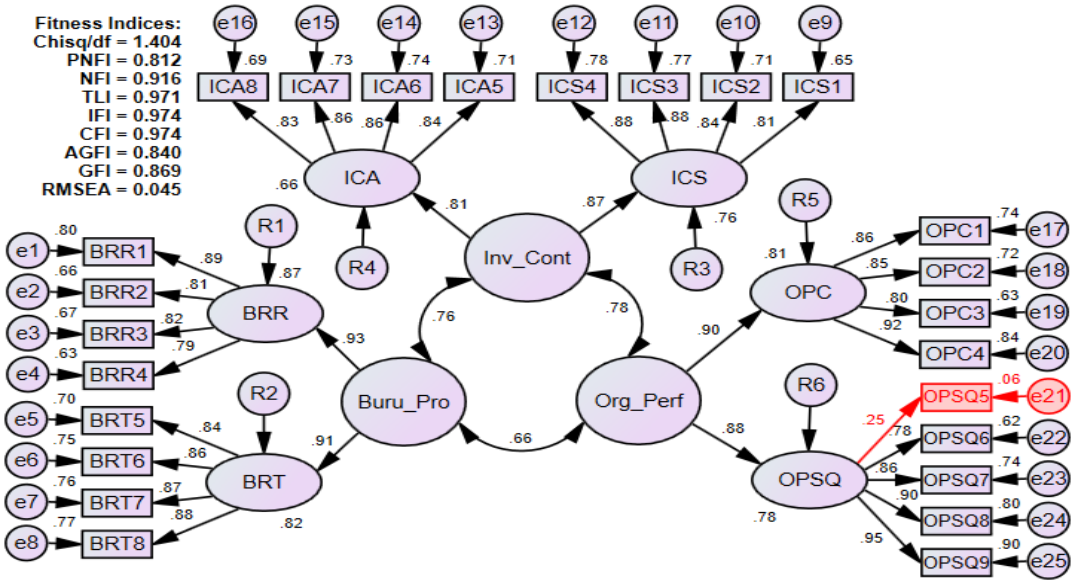

Figure-2. Measurement model before modification.

4.4.1. Unidimensionality

Unidimensionality is a construct explaining a set of indicator variables (Hair et al., 2010). For unidimensionality, Maximum Likelihood Estimator (MLE) was utilized to estimate the factor loadings, and one item (OPSQ5) with factor loadings < 0.60) was deleted to achieve unidimentionality (Awang, 2015; Hair et al., 2010). Figure 3 and Table 5 are showing that after the removal of OPSQ5, the loadings ranged from 0.784 - 0.952. The high factor loadings (> 0.70) indicate that the model is sufficiently error-free (Hair., Hult, Ringle, & Sarstedt, 2013).

4.4.2. Validity

The validity of a measurement model should imperatively achieve the construct validity, convergent validity, and discriminant validity (Henseler, 2012). In that contrast, the results are discussed as below:

4.4.2.1. Construct Validity and Reliability

This validity test refers to the measurement of accuracy and the extent that the latent construct represented by observed items (Hair et al., 2010). In this contrast, Table 4 showing the frequently cited indices with relatively recommended values, while Figure 3 expressing the results of goodness-of-fit indices. Parsimonious fit consisted Chisq/df= 1.403 (1.00 – 5.00), PNFI= 0.812 > 0.05; incremental fit consisted NFI= 0.922 ≥ 0.80, TLI= 0.973 ≥ 0.90, IFI= 0.976 ≥ 0.90, CFI= 0.981 ≥ 0.90, AGFI 0.846 ≥ 0.80; whereas absolute fit category consisted GFI= 0.875 ≥ 0.80, and RMSEA= 0.045 ≤ 0.08. The results are satisfactory, fulfilling the test assumptions for each fitness index category.

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Table-4. Goodness of fit indices for measurement model.

Category	Index Name	Level	Cited
Parsimonious fit	x^2 /df	1.00 – 5.00	Kline (2010)
	PNFI	> 0.05	Bentler and Bonett (1980)
Incremental fit	TLI	≥ 0.90	Tucker and Lewis (1973); Bagozzi and Yi (1988)
	IFI	≥ 0.90	Bollen (1990)
	NFI	≥ 0.80,	Bentler and Bonett (1980)
	CFI	≥ 0.90	Byrne (2010); Bagozzi and Yi (1988); Hair et al. (2010)
	AGFI	≥ 0.80	Jöreskog and Sörbom (1993); Chau and Hu (2001)
Absolute fit	GFI	≥ 0.80	Jöreskog and Sörbom (1993); Chau and Hu (2001)
	x^2p-Value	> 0.05	Awang (2015)
	RMSEA	≤ 0.08	Steiger (1990); Browne and Cudeck (1993); Hair et al. (2010)

Notes: From each category, at least one fitness index should be selected (Hair et al., 2010).

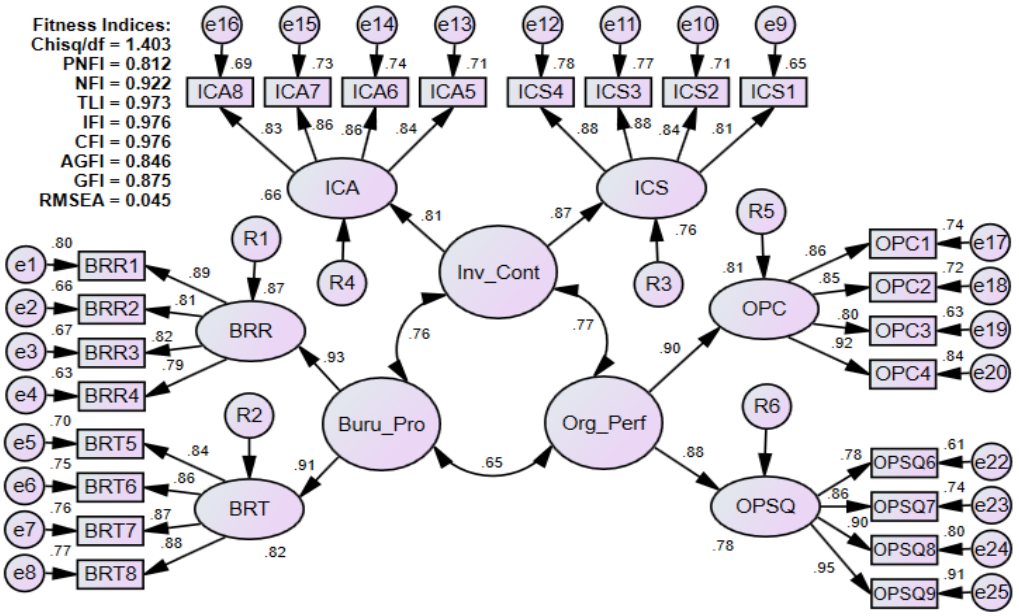

Figure-3. Measurement model after modification.

Besides, Cronbach alpha and composite reliability (CR) were evaluated to test the construct reliability. Table 5 is expressing the Cronbach alpha ranged 0.923 - 0.941 (greater than 0.70) and the CR ranged 0.830 - 0.917 (greater than 0.70) (Hair et al., 2010).

4.4.2.2. Convergent Validity

This validity evaluates the relationship between the items and the latent construct to ensure that they correspond to one another (Hair. et al., 2013). This validity type was examined by evaluating the AVE, for which the recommended value is ≥ 0.50 (Awang, 2015; Hashmi et al., 2020a). Table 5 is suggesting the AVE values ranged from 0.709 – 0.847 (greater than 0.50). According to Hair. et al. (2013) AVE ≥ 0.50 suggests that construct explains more than half of the variance of its indicators. Hence, convergent validity is achieved.

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Table-5. Standardized loading, Cronbach's *a*, CR, and AVE for full model.

Construct	Sub-Construct and Items	Std *β*
Bureaucratic Procedures (BP) *a* = 0.936 CR = 0.917 AVE = 0.847	BRR	0.933
	BRR1	0.892
	BRR2	0.813
	BRR3	0.820
	BRR4	0.792
	BRT	0.908
	BRT5	0.835
	BRT6	0.864
	BRT7	0.869
	BRT8	0.875
Inventory Control (IC) *a* = 0.923 CR = 0.830 AVE = 0.709	ICS	0.872
	ICS1	0.805
	ICS2	0.845
	ICS3	0.877
	ICS4	0.881
	ICA	0.811
	ICA5	0.845
	ICA6	0.858
	ICA7	0.857
	ICA8	0.828
Organizational Performance (OP) *a* = 0.941 CR = 0.885 AVE = 0.794	OPC	0.900
	OPC1	0.860
	OPC2	0.851
	OPC3	0.795
	OPC4	0.917
	OPSQ	0.882
	OPSQ6	0.784
	OPSQ7	0.862
	OPSQ8	0.896
	OPSQ9	0.952

Notes: Std β, Standardized Estimate; a, Cronbach's Alpha; AVE, Average Variance Extracted; CR, Composite Reliability.

4.4.2.3. Discriminant Validity

A discriminant validity deals with the latent constructs to examine differentiates, besides the correlations between constructs should not exceed 0.85 (Awang, 2015; Hair et al., 2010). Table 6 expresses the results, where AVE of the model for each construct was compared with its squared correlation, and the values in the columns and rows are lower than the diagonal values (Henseler, 2012). The results are also suggesting that multicollinearity does not exist, and the model is fit for SEM analysis.

Table-6. Summary of discriminant validity.

Construct	AVE	OP	BP	IC
OP	0.794	0.891		
BP	0.847	0.654	0.921	
IC	0.709	0.773	0.764	0.842

Source: Diagonal values are square root of AVE (√AVE).

4.4.3. Normality Test

According to Hashmi et al. (2020b) skewness and kurtosis are the robust measures of normality test with a recommended value between -1.0 and +1.0. The results found skewness and kurtosis between -1.0 and +1.0 with a critical region (c.r) less than 8.0 and 3.0, respectively, on an adequate sample size of 200 so the data is normally distributed.

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4.5. Structural Equation Modeling (SEM)

4.5.1. Hypothesis Testing (Direct Hypotheses: H1, H2, and H3)

SEM results supported all the five direct hypotheses (H1, H2, and H3). Table 7 describes that BP significant positively predicts IC and OP. Likewise, IC significant positively predicts OP. The results are evident that the effect of IC on OP is substantial.

Table-7. Structural path analysis results (direct hypothesis).

Hypothesis	Path	Std *β*	S.E	C.R	Results
H1	IC ← BP	0.756***	0.110	8.415	Supported
H2	OP ← BP	0.653***	0.114	7.161	Supported
H3	OP ← IC	0.779***	0.110	7.819	Supported

Notes: Std β, Standardized Estimate; S.E, Standard Error; C.R, Critical Ratio; ***, p< .001

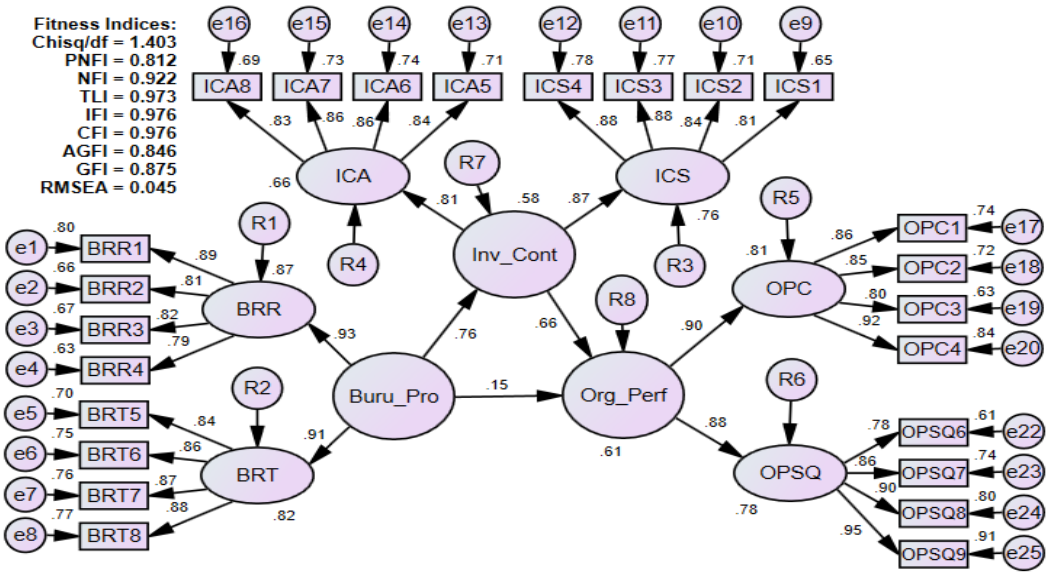

Figure-4. Structural Equation Modeling (SEM).

4.5.2. Mediation Assessment (Hypotheses: H4a and H4b)

The method suggested by Field (2013) was followed for the assessment of hypothesis related to mediation (H4). Therefore, the direct effect (path *c*) was measured before the indirect effect (path *c'*). The results in Table 8 are statistically significant. The significance of this direct effect (path *c*) is necessarily required for mediation (Hashmi et al., 2020b). Further, after entering the mediator (IC) in the path, the coefficients of path *c'* reduced from 0.653 to 0.152. Hence, the reduced value indicate that the mediation occurs; while the type of mediation is full mediation due to the insignificance value of path (*c'*). Consequently, hypothesis H4 is supported.

Table-8. The mediation assessment (hypotheses H4a and H4b).

Hypothesis	Path	Relationships	Std β	S.E	C.R
H4	C	OP←BP	0.653***	0.114	7.161
	A	IC←BP	0.764***	0.108	8.298
	b	OP←IC	0.658***	0.155	4.538
	c'	OP←BP	0.152 (ns)	0.158	1.197

Notes: ***p < 0.001; **, p< 0.05; (ns), Not significant.

4.5.2.1. Bootstrapping Results for Hypotheses H4a and H4b

Preacher and Hayes (2008) suggested bootstrapping method is another recommended and vastly used technique to test the mediation (Awang, 2015). Table 9 is demonstrating the bootstrapping results and indicating a significant indirect effect. Further, the boot CI (LL and UL) does not straddle a 0 in between. The significant

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indirect effect and CI (LL and UL) values indicate that the mediation occurs. Besides the insignificant direct effect in both hypotheses indicating full mediation. Thus, this method also supported the hypothesis H4.

Table-9. Bootstrapping results.

Hypothesis	Path	Std β (DE)	Std β (IE)	LL	UL	Decision
H4	BP→IC→OP	0.152 (ns)	0.503**	0.261	0.973	Supported

Notes: DE, Direct Effect; IE, Indirect Effect; ns, Not significant; **p < 0.05.

4.6. Coefficient of Determination (R^2)

Figure 4 presented that BP and IC substantially predicted OP by 61 percent, while BP also substantially predicted IC 58 percent (Cohen, 1988; Falk & Miller, 1992).

5. DISCUSSION

An integrated model was tested and validated to address the study objectives. The findings found that the data fitted well into the proposed model. Further, the discussion is explicitly based on the study objectives and is as follow:

Objective 1: For this objective, the hypothesis H1 was measured. The analysis output found that (H1) BP has a statistically significant and positive effect on IC. It shows that the increased level of BP will increase the effectiveness of IC. The findings are consistent with the findings of Walker and Brewer (2008). However, the findings are inconsistent with the findings of Ondari and Muturi (2016).

Objective 2: Hypothesis H2 was tested to consolidate this objective. The study findings found a significant and positive effect, indicating that the bureaucratic procedures are needed instead of the flexible and un-standardized procedures. These findings are inconsistent with the study of Meier, Polinard, and Wrinkle (2000). Whereas, the findings are supported by Boyne and Meier (2013).

Objective 3: For this objective, the SEM results expressed that inventory control has a significant positive effect by that the increased level of inventory control will increase the level of organizational performance. The findings are similar to the findings of Ahmad and Zabri (2018).

Objective 4: This objective was attained by measuring the hypothesis (H4). The results found that IC significantly mediates the relationship. Further, the mediation type was full mediation. Previous findings of Andrews, Groeneveld, Meier, and Schröter (2016) and Rehman, Mohamed, and Ayoup (2019) consolidates the findings of this study.

6. CONTRIBUTION AND IMPLICATIONS OF RESEARCH

The role of government hospitals is crucial for public health. These hospitals are affected the most and facing vulnerability due to the maladministration of inventories in functions of pharmacy and laboratory. Therefore, the Department of Health was requiring such research.

This study successfully integrated the study variables through SEM. The integrated proposed model was laid down on the foundation of Control Theory and RBV Theory and validated a second-order model. The findings contribute to the body of the mentioned theories and to the literature of tested models to achieve a better understanding of performance at healthcare facilities. Besides, the theoretical contribution is the mediatory role of inventory control in the relationship between disruptive factors and organizational performance. Further, this study also contributed to the existing database of knowledge.

The findings may benefit the government body, departments, and ministries managing mega-structured inventories, the pharmaceutical industry, and the public and private healthcare facilities. Further, the role of inventory control in organizational performance is becoming trendy and imperatively necessary, whereas, in developing countries, this concept is still to adopt at vast. The new regulations can encourage inventory control

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officers to have a commitment towards organizational objectives. Consequently, this type of study was indispensable to be emphasized as it is directly linked with two main elements of business studies, namely, inventory control, and organizational performance. Additionally, the dimensions of this study are perceived as relevant when linked to the state-funded sectors. Therefore, the study can be a guideline for the public sector to work on their grey areas, which is a continuous practice of any business.

7. CONCLUSION

This study considered only three variables, which could also be discussed by using several other variables. Furthermore, this study relied on perceptions rather than absolute values. The study also faced the constraints, like the study scope was geographically limited only to the Punjab province, cost, time, restricted and denied access to some information, inaccurate and inadequate record-keeping at healthcare facilities, and reluctant staff to answer the survey questionnaire.

The findings of this study recommend that current processes necessarily be reviewed and redesigned for public healthcare facilities. The input from the stakeholders should be considered in decision and policy-making. Additionally, the conflicting or overlapping behavior of systems should be eliminated, and positive bureaucracy should only be utilized through standardization instead the personal differences. Standard Operating Procedures (SOPs) should strictly be adhered to, which will not only reduce the conflict of interests but also increase efficiency. Future research can use other population designs with different predictors. The researchers can empirically determine; the impact of inventory management on financial reporting, factors involved in procurement and its relationship with inventory management, the relationship between inventory management and demographic attributes, and the impact of back-log inventories on business performance.

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