

## Article

# IT Process Alignment in Business Strategy: Examining the Role of Transactional Leadership and Organization Culture

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**Abstract:** Information technology (IT) is a competitive path and offers the entrepreneurial opportunity of accumulating business knowledge in capturing consumer behavior. This study employed a conceptual framework to investigate the information processing facet of IT–business alignment under the impact mechanism of transactional leadership in the manufacturing sector of Yunnan Province, China. Specifically, organization culture is taken as a moderating factor extracted from situational theory and has been highlighted as important in previous organizational research. This study aimed at investigating the impact of transactional leadership on IT–business process alignment and studying the moderating effect of organizational culture on the relationship between transactional leadership and IT–business process alignment. The empirical findings reveal that contingent reward and management by exception behaviors of entrepreneurs are significant drivers of IT–business process alignment. Furthermore, market culture had a moderating effect on the relationship between entrepreneurs’ transactional behaviors and IT–business process alignment. Similarly, hierarchy culture exerts a moderating effect on the path between contingent rewarding behavior and IT–business process alignment. Here, it exerts an insignificant moderating effect on the management by exception behavior and IT–business process alignment path. The study findings mainly reveal the association of transactional leadership with IT–business process alignment, along with the moderating role of organizational culture. This study contributes to the literature on business knowledge by showcasing empirical evidence—how information processing aids entrepreneurial behavior to capture market opportunities and consumer behavior.

**Keywords:** information processing; IT–business process alignment; transactional leadership; organization culture



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## 1. Introduction

Technology and business integration is the crux of dominant originations with productive outcomes. Information technology (IT) is shaping multi-dimensional business strategies in a wider web of automation, adjustments, quality processes, and competitive segregation [1]. The IT contribution to organizations progressed from data management to the “strategic” era [2], which supports and shapes business strategies [3]. Enterprise officers that have aligned IT with business strategies argue that the integration is crucial to a firm’s survival and success. However, the critical market positioning with its potential outcomes has launched technical projects into the organizational domain. The enlargement of information resources within businesses has led to internal realization, development, structural modifications, and managerial actions [4]. Technological tools such as the Internet, client–server, data warehousing, cloud computing, and enterprise resources planning systems (ERP) are concentrated purely on central information structures.

The alignment between IT and business strategies proved very important in the early 2000s with mounting e-businesses [5]. In 2004, the US Society of Information’s management survey highlighted information as a concern for executives [6]. Organizations have productively aligned IT and business strategies and, on average, pay up to 17%,

in comparison to those that are less aligned [7]. IT–business alignment failure results in financial deficit, opportunity loss, and heavy mishaps. All discrepancies relate to the executive’s lack of information system functionality, cultural shift, internal vs. external shuffling, and consumer behavior [8]. Strategic management and researchers are aware of IT functions and integration of existing and new information systems [9]. Moreover, the IT–business linkage aids system integration and product consumption [10]. Strategic leaders and their direct subordinates have redesigned work assignments purely to align IT–business strategies. These work assignments contained political and cultural negotiations, business problem–solutions, project selling of IT hand-outs, and interpersonal and cross-functional communications [11]. Studies have spotted information systems in small and medium enterprises (SMEs) as a strategy implementation feature, but there still exists an inadequate understanding of IT process integration and organizational leadership [12]. Many researchers have identified alignment as the reason for the inadequate understanding of the relationship amid contextual factors [13].

Scholarly work has connected IT–business alignment with organizational knowledge, participation, skills, managerial decision, and firm performance [14–16]. Furthermore, existing work has highlighted communication as a building block of behavior towards IT–business alignment [17,18]. These studies have highlighted how a leader transforms an organization by combining technology and organizational processes using psychological and operational practices. Moreover, the meditation effect of IT projects is also being reported in the literature on IT–business alignment and business practices. IT–business alignment is a well renowned managerial concern that requires continuous efforts towards technology and business integration in the entrepreneurial domain [19–21]. Drawing upon situational theory (SLT), leadership has sagged social utility by institutional, psychological, cultural, and technological factors [22]. Leaning on it, organizational culture has been reported to be a dominant characteristic of alignment between organizational counterparts in diverse situations. Moreover, a supportive organizational culture designs the common belief of entertaining organization processes coupled with technology [23,24].

In the organizational domain, limited studies have investigated leadership in the IT–business alignment context. The work of [25] discussed transformational leadership in association with IT–business alignment and concluded a positive association. However, there exists a gap in incorporating transactional leadership with organizational culture in relation to IT–business process alignment, as critically described by full range theory and a competing value model.

Moreover, the authors of [26] wrote about the relevance of numerous leadership behaviors beyond the transformational behavior of strategic leaders. The study in [27] navigated a parallel focus on the internal and external contexts, adoption of long-term compensation plans for growth in research and development (R&D), stakeholder relationships, and participation [28]. According to [29], transactional leadership behavior in the information system (IS) context has an interaction effect on executive system (ES) continuance and satisfaction. The leadership literature reported far less attention being paid to transactional leadership and non-leadership [30].

In order to carry out the study objectives, the researchers applied empirical investigation and theory-based models to test the moderation effect of a controlled, oriented organizational culture on the causal relationship between a transactional leader and IT–business process alignment. This study was divided as follows: Review of the literature related to leadership, organizational cultural, IT–business alignment, and the process domain using the strategic alignment model (SAM) proposed by [31], followed by study hypotheses. The third section reports the data collection and analysis, followed by the findings. The last section of this study provides the discussion, conclusion, and future directions.

## 2. Literature Review

### 2.1. Transactional Leadership

Leadership is an influential area of strategic management and is continually contributing to this field of study. Classical knowledge of management had worked around behaviors and decision expertise of strategic leaders [32,33]. In particular, studies on strategic management connected organizational strategies with leaders' thinking, skills, and behaviors. Leadership styles and practices influence employee commitment, satisfaction, and processes [24,34]. In a study conducted by [35], it was explained that the world's economies differentiate successful leaders in their work approach. Their research evidently shows that emerging market leaders specifically in countries such as India and China have a strong center of attention and skill set on operational execution and technology. Additionally, internal–external information collection, processing, and usage equipped strategic leaders to be an influential force of strategy execution [27,36,37]. Beyond using that information to craft decisions, strategic leaders persuade firms' admittance to information, integration, and supply right through the firm [38].

Strategic leadership is defined as “the leader's ability to predict, and maintain flexibility and to empower others to create strategic change as necessary” [39,40]. Similarly, strategic leaders employ diverse work behaviors beyond transformational ways of setting organizational objectives [26]. Scholars have explained behaviors, decisions, and IS–business firm-level outcomes gain reflection from dispositional traits of strategic leaders [41]. Studies reported personality traits being the prominent feature of leaders with Big Five, narcissism, and core self-evaluations [42,43]. Age and political orientation also retain a tendency of risk taking and should be given due importance in organizational studies [44].

The study of [45] gave importance to transactional leadership theory. Since its inception, its influence is emerging in the field of organization psychology. Leaders with such behaviors paid attention to strategy implementation, hierarchical structure, and rewarding employee performance. Moreover, they practiced management by exception behavior to offset errors [46]. According to [47], contingent rewarding behavior obtains employees' prior work agreements in exchanges of performing the designated work. The study of [27] reported compensation in relation to strategic leadership. It is their prior jurisdiction to implement and control HR functions throughout the work life to manage employees' careers [48]. The varying types of incentives and potential compensation disparities among executives can sway firm performance [49]. The compensation ladder leads to higher strategic leadership positions. Previous studies in the literature mostly tended to transformational leadership and influential outcomes such as innovation, operational capability of information processing, and customer retention [50,51].

The theoretical foundation of this study examined the impact of active contingent reward and management by exception (MBE) behaviors on IT–business operation to drive the information desire of teams to play their part in customer satisfaction [27,29].

### 2.2. Organizational Culture

The work on organizational climate in the 1970s held huge attraction towards organization culture [8]. Organizational theory states that “culture is a basic part of assumption that a given group has created, found or developed during a learning process owing to problems with external adaption and internal integration” [52]. Moreover, an organization crafts its own culture by visions, missions, objectives, strategies, and integration of a common language: clear reward system, status of relation. The work of [53] placed leadership and organizational culture under the same roof in organization management of public sector institutes. The study of [54] extended the company view of focusing on primary strategic priorities and cultural alignment during strategy design. Values and beliefs radically shape attitudes, behaviors, and practices of one's career, gaining experiences and information technologies [24–55].

The competing value framework (CVF) is the theoretical underpinning and extensively used model of organization culture research [56]. CVF is an established framework for China and other developed countries as well. This model integrates multi-dimensional organizational culture that is reported in the literature [57]. The two-dimensional CVF classifies four models with a diverse set of effectiveness criteria. The scholarly work of [58] proposed four quadrants as “the human relations model, open system model, rational goal model, and internal process model”. There are four culture types called clan and adhocracy (flexibility-oriented), and hierarchy and market (control-oriented). The implication of the culture type is diverse and circumstantial to match the work environment [59]. Expectations are possible for genuine technology-shaping values, beliefs and behaviors at work units [60]. Developing countries face IT failure due to inconsistent cultural support [61]. According to [62], CVF became the dominant model in quantitative research on organizational culture. It possesses a predictive power for US, Chinese, and Indian contexts of organization culture, other variables, and sectors [63–66].

The hierarchical structure and communication define the top-down formal authority of designated tasks to generate a system of information and teams. The rules orientation emphasizes the rationality of procedures, division of work, and respect for authority. Moreover, the hierarchical structure internally aims to retain functional stability and process the information to compete with rival organizations [67]. Individuals and companies with such values tend to be vigilant, practical, and systematic in their approach. Management with hierarchical values is keen to optimize the information system to let the workforce know about policies, procedures, incremental products, and services [68]. The goal orientation concept emphasizes rationality, accountability, accomplishment, and performance indicators. Moreover, market culture focuses externally on contingent reward and accountability [69]. This type is more of an incremental type in terms of structure and procedures. Individuals and companies with this perspective tend to spotlight performance, goals, speed, and the obtained results. Furthermore, these shared beliefs and assumptions connect strategy and performance and construct a career shift within an industrial setup [56]. This study employed the controlled culture and contingent components of strategic leadership in the study model to investigate the interaction effect on the relationship between strategic leadership behavior and IT–business strategic alignment.

### 2.3. IT–Business Process Alignment

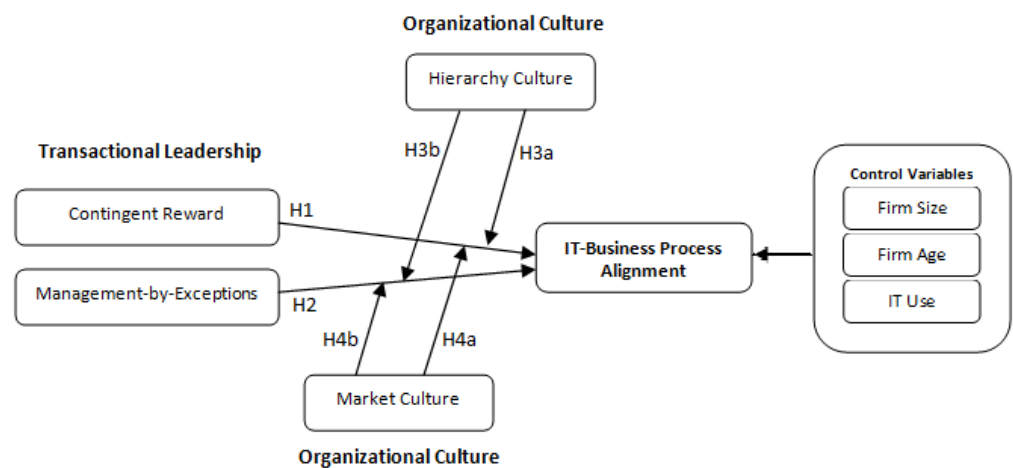
Industrialization has developed an environment of positioning organizational resources into an apt order to accomplish an ideal outfit. The current era is all about appropriate information systems and strategies as an idyllic formula to connect business processes and technology. The subject of process alignment between business and IT has been one of the leading research topics over a period of time in e-commerce. Internal alignment compels managers to consider information system management globally [70]. Process alignment indicates the composition of working methods, characteristics, business knowledge, and technology to produce satisfactory consumer products [71]. The study of [72] explained that alignment has been conceptualized in numerous ways. However, the majority of the definitions state alignment as “the degree to which the mission, objectives, and plans contained in the business strategy are shared and supported by the information processing strategy”, authenticating the alignment concept of [73]. CEOs and IT executives align information processing among business and IT operations to understand consumption behaviors via strategy design.

Recent research works emphasized aligning the IT strategy with company’s overall strategy. Studies worked out various perspectives of alignment such as strategic, structural, business, processes, information system, cross-dimensional, and alignment mechanism. The work of [14] established criteria to determine the level organizational IT–business alignment which include business strategies, infrastructure and processes, and information technologies. Therefore, superior alignment and synchronization between IT–business information processing, IT tactical planning, and organization are indispensable. The man-

agement should choose hierarchical structures by combining business and organization to transform IT investments into organizational success. Failure to align would lift production costs and ultimately decline competitive capabilities [74,75]. IT investments obtain firm performance by developing “alignment”, which is the connectivity of conception, formulation, coordination, acceptance, and operational support between information technology and the business strategy [73,76]. Business strategy implementation leads to the best return and competitive development, while a mismatch can have negative outcomes [77]. Previous studies reported the significance of IT–business alignment in regard to a firm’s performance, situational success, and information perspective. Our study fills this gap by having IT process alignment influenced by transactional leadership behavior.

#### 2.4. Hypotheses Development

To meet the study objectives and fill the existing gap, our work designed a model to investigate the interaction effect of transactional behaviors (contingent reward and management by exception) and organizational culture (hierarchy culture and market culture) on IT–business alignment (information processing) in the manufacturing sector to capture consumer behavior. Moreover, the firms’ age, size, and IT use are borne in mind as the control variables on IT–business process alignment. Figure 1 illustrates the study model and logical relationship behind hypotheses development.



**Figure 1.** The impact mechanism of this study.

#### 2.5. Contingent Reward and IT–Business Process Alignment

Contingent rewarding behavior was given in-depth treatment as an important constituent of leadership by [45]. Leaders having such behavior are direction-focused and reward followers’ work processes and performance in accordance with contracts or expend essential efforts [30,78]. Leaders, in accordance with contingent rewarding behavior, obtain employee prior work agreements and exchange rewards for delivering good job performance within a certain time [47]. Extrinsic motivational studies have simulated compensation and behavior in the self-pursuing interest of management. Agency theory explains that executive decisions work under corporate governance and compensation factors [79]. Drawing upon situational leadership theory (SLT), the varying work environments demand for a shift in managerial behavior to cope with change and achieve work objectives. Top managers work as integral supporters and enablers of IT–business integration, with rewards as extrinsic motivational factors to guide the roadmap for policy implementation [25]. Moreover, small and medium enterprises (SMEs) enlarge their product line based on the strategic fit, which accumulates IT alignment in managerial capabilities and outcomes in supreme business performance [80]. Leaders offer positive reinforcement by instructive responsibilities and sustain this. A study in Egypt also strengthened the role of strategic alignment in making rational decisions that executives demand in their

operational domain [81]. The study of [27] illustrated a reward design working ladder to adopt and accept work processes, structures, and technology, and the study was conducted in the transformational leadership in IT alignment context [25]. Moreover, the development of compensation plans uplifted motivation, work engagement, process obedience, and research and development [28]. Therefore, transactional leadership is also a critical concept of investigation in the context of IT–business alignment. Thus, this study proposes the following hypothesis:

**Hypothesis 1 (H1).** *Leaders' contingent rewarding behavior is associated with IT–Business process alignment.*

#### 2.6. Management by Exception and IT–Business Process Alignment

The concept of management by exception (MBE) is operationalized as a leader's behavior with error identification, intensive employee supervision, and taking corrective measures [30]. Leaders with such behavior approach system issues timely and efficiently to enhance organizational system functionality. Moreover, such behaviors authenticate environmental scanning and solution implementation [82]. Drawing upon contingency theory, management by exception active (MBEA) behavior is considered situational and most suitable to executive work behavior in connection to information system implementation or technology adaption [83]. Studies found low correlations between management by exception and effectiveness, but some of them also found a negative relationship [84]. The study of [85] explained that MBE under the management–subordinate context is an appropriate situational practice, but extensive use might be judged an ineffective practice to the organizational environment. Therefore, MBEA should be contingent, which would add a minor effect on the subordinate perception. The MBE leading style connects diverse organizational components to develop labor satisfaction, supervision, and business knowledge based on information flow and innovation. These behaviors are more suitable for innovation and a sense of belongingness based on continuity of work without restriction from leaders. The study of [86] highlighted the important role that organizational management plays in strategy implementation. Therefore, the authors stated that misalignment of leadership with the strategic fit derails commitment and work engagement. The work of [25] investigated transformational leadership in the context of IT–business strategic alignment in Chinese enterprises and concluded a significant role of transformational leadership. Working on their study gap and supported by a full range of theories of leadership, transactional leadership is also worthwhile to be empirically investigated in the Chinese industrial setup.

**Hypothesis 2 (H2).** *Leaders' management by exception (MBE) behavior is associated with IT–business process alignment.*

#### 2.7. Moderating Effect of Organizational Culture

The competing value framework (CVF) emphasized internal and external values, human wellbeing, and organizational development. The structure and market values are fundamentals of control-oriented culture [58]. However, balancing these dimensions is critical to organizational performance [87]. Originating from situational theory, the contingent factors are a focal point of leadership to transform and propose an idyllic fit which coordinates culture and technology. The CVF offered a comprehensive framework that discusses strategies, competitive working systems, business knowledge, and leaders' engagement. Later, the organizational culture framework reported controlled culture features, structure, consistency, accountability, responsiveness, orientation, and productivity [88,89]. The cultural web contain symbols, control systems, power, and organization structure [90]. Specifically, hierarchy culture combines responsibilities, standardized rules, processes and procedures, controls, and an organizational structure, leading to a bureaucratic model. Weber's approach to modern organization management is a sophisticated way of running

operations, with reward accomplishments, and closed supervision. Moreover, this approach is idyllic in the absence of a clan cultural mechanism [57]. Market culture originated from the work of [91] and is more of an external approach to interact with and face competitors by earning opportunities. The market mechanisms are essential to information systems in order to patch price sensitivity, make quick decisions, and reward desired contributions.

A leader's behavior encourages, motivates, and unifies followers to chase a strategic vision, figure out the organizational culture, and align the business strategy [54,92]. A strategically aligned environment activates communication systems across teams. Moreover, consistency and an aligned internal information system shift the organizational culture and structure as a strategic weapon [14–72]. The study of [93] also proved an internal flexibility-oriented organizational culture as a significant priority factor for IS strategic alignment in the post-implementation phase in Tunisian companies. Organizational structure and processes can create inadequacy even though businesses and IT organizations share congruent values and beliefs [6]. Therefore, a controlled culture is on the cards to deal with discrepancies and create the best fit between IT and business processes. The study of [52] was devoted to group leadership and organizational culture under organizational management of public sector institutes in strategy design. Culture–strategy connectivity leans human operation systems towards a common purpose within an organizational territory. To align culture with strategic priorities, leadership must concentrate on a hierarchical structure during strategy implementation [46].

The information perspective of organizations is a painted value of collecting, processing, and transmitting information to shape a multi-purpose organization. The variety of stimuli in a typically uncertain environment demands challenging strategic efforts for leaders [27]. Moreover, the adaption to new or changing system features is sensitive to business operation. The study of [54] reported culture attributes which reflect dominant strategic support. Leaders must ensure enterprise system continuance intention by reinforcing behaviors, by clarifying roles and responsibilities, training, rewarding desirable behaviors, regular monitoring, and timely feedback. These features strongly shape the positive interaction between the executive system (ES) and employees [29]. The chief executive officer's (CEO's) long-term compensation plans guide investment decisions, research and development (R&D) strategy, and engagement in stakeholder relations that ultimately boost a firm's value [28]. Strategic leaders practice values, procedures, and control that can have considerable implications for strategy implementation, environmental shift, structural change, and firm performance [94,95].

**Hypothesis 3a (H3a).** *Hierarchy culture moderates the relationship between contingent rewarding behavior of leadership and IT–business process alignment.*

**Hypothesis 3b (H3b).** *Hierarchy culture moderates the relationship between management by exception behavior of leadership and IT–business process alignment.*

**Hypothesis 4a (H4a).** *Market culture moderates the relationship between contingent rewarding behavior of leadership and IT–business process alignment.*

**Hypothesis 4b (H4b).** *Market culture moderates the relationship between management by exception behavior of leadership and IT–business process alignment.*

Figure 1 explains the hypothesized relationships between transactional leadership: contingent rewards and management by exception, and IT–business process alignment, that is, H1–H2. Moreover, the moderating effects of organizational culture: hierarchy and market culture, are reported in supposition of H3a–H3b and H4a–H4b on the causal relationship of transactional leadership and IT–business process alignment. The control variables are also positioned in the impact mechanism due to their role in organization studies reported in the literature. On a broader spectrum, the impact mechanism of the study elaborates the logical and theory-based relationships and expected outcomes.

### 3. Methods

#### 3.1. Operationalization

Working on an extensive literature review, the study adopted a survey approach with a five-point Likert scale to measure the constructs. The transactional leadership facets undertaken in this study are contingent reward (where leaders practice rewarding followers in response to achievements from expected performance) and management by exception (where leaders practice monitoring for errors, deviations, and mistakes and take immediate corrective actions), which took 6 items using the multi-factor leadership questionnaire (MLQ) that has been validated in diverse organizational environmental and cultural settings [85]. The organizational culture assessment instrument (OCAI) was adopted here, and it is based on the competing value framework to assess types of organizational culture. Hierarchy culture (incremental change, attention, consistency, efficiency, cautions) and market culture (acquire processes, commanding leader, compete, fast change, customer satisfaction) were measured using 10 items [68]. IT–business process alignment (process: supportive, adaptive, matched, infrastructure, and correspond) was measured using 5 items from the work of [96].

#### 3.2. Data Collection

Our study utilized a field survey for data collection from the manufacturing firms of Yunnan, China, having IT systems operational for over a year. Data separation into independent and dependent variables was conducted at the time of data collection to address the common method bias as per the guideline of [97]. A total of 320 questionnaires were distributed, and 290 received back. Furthermore, 27 cases were eliminated from the dataset based on matching executives and subordinates from firms' assigned code and missing responses. A final sample of 263 cases was part of data analysis.

#### 3.3. Data Analysis

Analysis of moment structures (AMOS) is considered the primary tool for analysis to examine hypothesized relationships of variables in a study model. This statistical module is designed for multivariate analysis that incorporates confirmatory factor analysis (CFA) and path analysis by using covariance-based structured equation modeling (SEM) [98].

### 4. Results

#### 4.1. Measurement Model

Confirmatory factor analysis (CFA) is a study technique which estimates the hypothesized model fitness using the comparative fit index (CFI), incremental fit index (IFI), Tucker–Lewis coefficient (TLI), and root mean square error approximation (RMSEA) values. The fit indices are found well matched with the cutoff value of CFA, CFI, IFI, TLI, and RMSEA that is less than 0.8 [99–101] for the constructs. Here, the study results are confirmed ( $\chi^2/df = 1.93/177 = 1.9 < 2$ ; CFI = 0.94, IFI = 0.95, TLI = 0.93; RMSEA = 0.06).

According to [102], convergent validity refers to an item's internal consistency in measuring a construct evaluated through average variance extracted (AVE) over 0.5 [103]. Moreover, this is confirmed by having a factor loading over 0.5 or 0.6 [98,104]. The study results (see Table 1) indicate that all variables verified the criteria, while AVEs range from 0.51 to 0.73, well above 0.5.



**Table 1.** Construct validity, reliability, and normality.

Constructs	Items	Loadings	AVE	CR	Skewness	Kurtosis
Market Culture	MC1	0.743	0.519	0.843	−0.381	−0.701
	MC2	0.677			−0.336	−0.091
	MC3	0.68			−0.137	−0.261
	MC4	0.761			−0.172	−0.598
	MC5	0.74			−0.202	−0.599
Hierarchy Culture	HC1	0.900	0.554	0.857	−0.754	0.589
	HL2	0.895			−0.421	−0.658
	HC3	0.597			−0.263	−0.735
	HC4	0.673			−0.308	−0.649
	HC5	0.595			−0.239	−0.723
IT–Business Process Alignment	ITB1	0.63	0.575	0.870	−0.753	0.041
	ITB2	0.849			−1.074	0.896
	ITB3	0.774			−0.722	0.315
	ITB4	0.749			−0.968	0.598
	ITB5	0.774			−0.578	0.128
Contingent Reward	CR1	0.837	0.634	0.836	−0.677	0.129
	CR2	0.884			−0.464	−0.351
	CR3	0.65			−0.426	0.215
Management by Exception	MBE1	0.785	0.849	0.886	−0.528	−0.244
	MBE2	0.874			−0.580	−0.096
	MBE3	0.889			−0.600	−0.271

Note: Market Culture: MC; Hierarchy Culture: HC; IT–Business Process Alignment: ITB; Contingent Reward: CR; Management by Exception: MBE.

Conceptually, construct reliability verifies the internal consistency of the set of items. The values of composite reliability for all variables (Table 1) range from 0.83 to 0.88 and are well above 0.70, which is reported to be reliable [105]. Data normality is also ensured, as noted in Table 1, where the value of skewness and kurtosis is between the range of  $-1$  and  $+1$  [100].

Table 2 displays the correlation between the constructs based on data analysis. The constructs' differentiation refers to the discriminant validity verified through the square root of AVEs greater than the inter-correlation between the constructs [103]. The square roots of AVEs at the diagonal (contingent reward = 0.79; management by exception = 0.92; IT–business process alignment = 0.76; hierarchy culture = 0.75; market culture = 0.71) are well above the inter-correlation between the study constructs. Therefore, the results verify the discriminant validity in the measurement model.

**Table 2.** Constructs' mean, SD, and correlations.

Variables	Mean	SD	1	2	3	4	5
1 Contingent Reward	4.022	0.675	<b>0.79</b>				
2 Management by Exception	4.073	0.736	0.787	<b>0.92</b>			
3 Hierarchy Culture	3.988	0.666	0.585	0.426	<b>0.75</b>		
4 Market Culture	3.903	0.620	0.683	0.620	0.674	<b>0.71</b>	
5 IT–Business Process Alignment	4.085	0.703	0.284	0.284	0.486	0.419	<b>0.76</b>

#### 4.2. Structural Model

The first model indicates contingent reward ( $\beta = 0.11, p < 0.05$ ) and management by exception ( $\beta = 0.19, p < 0.05$ ) behaviors have a significant effect on IT–business process

alignment (see Table 3), supporting H1 and H2. Moreover, the control variables firm size, firm age, and IT use have an insignificant effect on IT–business process alignment. As it is noted, the variance of exogenous variables by endogenous variable is  $R^2 = 0.05$  for IT–business process alignment.

**Table 3.** Direct and moderating effects.

Paths			Coefficient	S.E.	C.R.	p-Value
<b>Direct Effect Model (<math>R^2 = 0.05</math>)</b>						
IT–Business P. Alignment	<—	Management by exception	0.117	0.056	2.071	0.038
IT–Business P. Alignment	<—	Contingent reward	0.190	0.062	3.084	0.002
IT–Business P. Alignment	<—	IT use	0.000	0.050	0.005	0.996
IT–Business P. Alignment	<—	Firm size	0.044	0.053	0.829	0.407
IT–Business P. Alignment	<—	Firm age	−0.080	0.082	−0.975	0.330
<b>Interaction Model (<math>R^2 = 0.23</math>)</b>						
IT–Business P. Alignment	<—	Contingent reward * Hierarchy culture	−0.204	0.052	−3.954	0.000
IT–Business P. Alignment	<—	Contingent reward * Market culture	0.170	0.058	2.942	0.003
IT–Business P. Alignment	<—	Contingent rewards	−0.024	0.076	−0.317	0.751
IT–Business P. Alignment	<—	Market culture	0.163	0.069	2.354	0.019
IT–Business P. Alignment	<—	Hierarchy culture	0.247	0.073	3.386	0.000
IT–Business P. Alignment	<—	Management by exception	0.091	0.070	1.294	0.196
IT–Business P. Alignment	<—	Management by exception * Hierarchy culture	0.077	0.052	1.467	0.142
IT–Business P. Alignment	<—	Management by exception * Market culture	−0.165	0.053	−3.144	0.002

#### 4.3. Moderation Testing

In order to conduct moderation analysis, the variables need to be standardized as a pre-requisite given by [106]. The study of [107] explained that the significance of interaction variables is reportable for the moderation effect. The study results indicate the moderation effect of market culture on the relationship between management by exception and IT–business process alignment with ( $\beta = -0.165, p < 0.05$ ) and also on the relationship between contingent reward and IT–business process alignment ( $\beta = 0.170, p < 0.05$ ), supporting H4a and H4b. Moreover, the interaction of hierarchy culture is also significant, clearly indicating the moderation effect of hierarchy culture on the relationship between contingent reward and IT–business process alignment ( $\beta = -0.204, p < 0.05$ ), supporting H3a, while the insignificant interaction effect revealed indicates no moderation effect of hierarchy culture on the relationship between management by exception and IT–business processes alignment ( $\beta = 0.077, p > 0.05$ ), opposing H3b.

In order to construct a comparison model, this study compares the interaction model with the direct effect model that connects exogenous constructs to endogenous constructs, excluding moderators and interaction terms from the model. For the said purpose,  $R^2$  values of the interaction and main model were calculated using Cohen’s “ $f^2$ ” effect size.

$$f^2 = R^2_{\text{included}} - R^2_{\text{excluded}} / 1 - R^2_{\text{included}}$$

By assessing the amount of variance exogenous variables contribute to the endogenous model [108], the effect size can be calculated, where for  $R^2$  included, it is 0.23, and for  $R^2$  excluded, it is 0.05, and ( $f^2$ ) is 0.23. The estimated results present a moderate effect of organizational culture that is supported by previous work regarding the IS context [109].

Firstly, Figure 2 explains the pattern of the moderation effect illustrating the role of hierarchy culture in the relationship between contingent reward (CR) and IT–business process alignment (IBA). The existence of a low hierarchy culture with high contingent rewarding behavior elevates IT–business process alignment. Secondly, Figure 3 indicates the pattern of the moderation effect that market culture possesses on the relationship between contingent rewarding (CR) behavior and IT–business process alignment (IBA). The existence of a low market culture in collaboration with high contingent reward behavior is appropriate for IT–business process alignment. Finally, Figure 4 reports the pattern of the moderation effect that market culture exerts on the relationship between management by exception (MBE) behavior and IT–business process alignment (IBA). The existence of a low market culture reaches an interaction point at high management by exception (MBE) that would be the ideal scenario for IT–business process alignment (IBA).

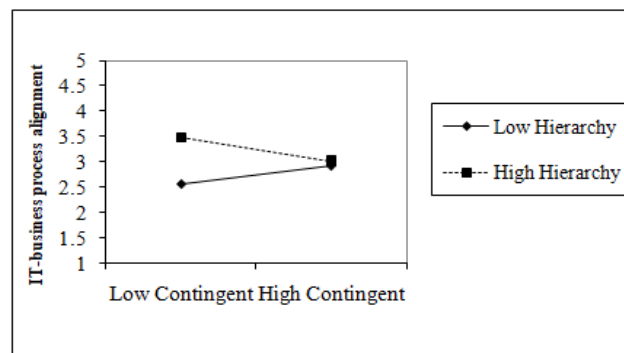


Figure 2. Contingent reward \* hierarchy culture.

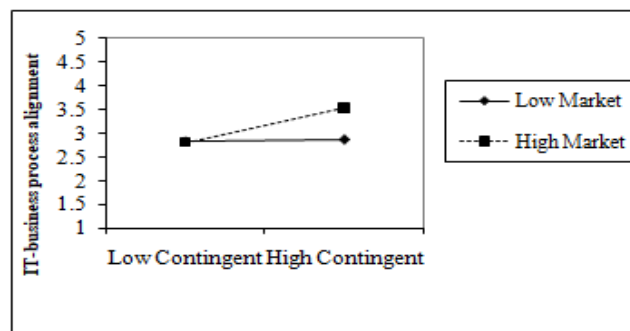


Figure 3. Contingent reward \* market culture.

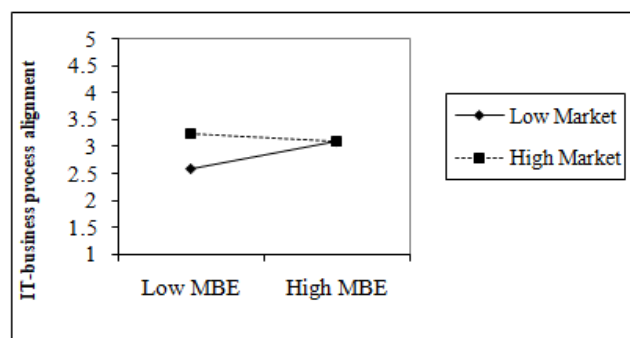


Figure 4. Management by exception \* market culture.

### 5. Discussion

Firstly, the study results explain a significant association of contingent rewarding leadership with IT–business processes alignment. The positive nature of the association

indicates that an exchange-oriented approach by executives will ensure work achievements. Adding to this, rewarding behavior conveys a message of employee understanding and work attainment and generates positive reinforcement among the workforce. Ultimately, a momentum in process integration takes place to support business knowledge and adapt the technological changes within the organization, aligning with the findings of [27]. Secondly, the results of this study reveal a significant association of management by exception behavior with IT–business process alignment. This explains how active leadership discovers a system of attention, monitoring, evaluation, and control that suits strategy formulation and implementation, which gains support from the works of [14,19]. These results match the existing work of [25], which was in support of IT–business processes and operational integration. Therefore, leadership behaviors have their own say for design and strategy integration and implementation to equip organizations with technology. Thirdly, the study findings show a moderating effect of market culture on the relationship between transactional leadership and IT–business process alignment, consistent with the scholarly work of [28]. The findings refer to the optimistic path of aligning business and technology to synthesize culture as a key business sensation in the techno era. Moreover, the express way is to blend managerial behavior with marketing values, beliefs, and attitudes to understand customer orientation, efficiency, and goal orientation. Finally, the study findings reveal the moderating effect of hierarchy culture on the relationship between contingent rewarding behavior of leadership and IT–business process alignment, consistent with the studies of [29,54]. This means that, as long as executives ensure customer orientation, responsiveness, and effectiveness in exchange for employee rewards, there would be maximum business and technical utility. The study findings neglect the moderating effect of hierarchy culture on the relationship between management by exception leadership and IT–business process alignment. This was previously supported by [83], who explained that excessive procedures create doubts and delays and block operational and strategic integration.

## 6. Conclusions

This study was based on a theory-driven approach with a theoretical model to investigate the relationship between contingent reward and management by exception with IT–business process alignment. The contingency factors of organizational culture were taken as moderators of the relationship between transactional leadership and IT–business process alignment. A survey approach was implemented in manufacturing firms of Yunnan as constant users of IT services for business operations for over a year. SEM was used as the basic approach for testing the study hypotheses. The empirical results proved a significant effect of contingent rewards and management by exception on IT–business alignment. Moreover, market culture illustrated a significant moderating effect on contingent reward and management by exception on IT–business alignment. Similarly, hierarchy culture revealed a significant moderating effect on contingent reward and IT–business alignment, while an insignificant effect was found on the relationship between management by exception and IT–business process alignment.

### 6.1. Theoretical Implications

This study diversely contributes to the literature of IT business knowledge management. Firstly, this study has highlighted the main effects of contingent reward and management by exception leadership on IT–business process alignment. Previously, leadership behaviors were reported in multi-dimensional perspectives such as organizational innovation, success, and goal attainment. The existence of a gap has been pinpointed in how the facets of transactional behavior influence IT–business process alignment. The empirical findings open up the utilities of executives' behaviors regarding IT–business alignment and adjusting strategic plans to design satisfactory consumer products. Secondly, the current study unfolds the moderating effects of organizational culture, especially the control-oriented dimension, between the functional relationship of transactional behavior and IT–business processes alignment. Subsequently, contingency factors are not given due

importance in the strategic alignment context of IT and business process execution. Mostly, previous studies relied on resource factors in connection with organizational performance and the strategic alignment context of enterprise systems. Thirdly, the study enriches the literature by incorporating facets of control-oriented culture and investigation of the interaction effect between transactional leadership behaviors and cultural typologies in regard to process alignment with the business strategy. Finally, this study also elaborates on the theoretical positioning of behavioral components that plays a vital game-changing role in conjunction with cultural values for smooth operations and entrepreneurial success.

## 6.2. Practical Implications

This study serves as a bridge between decision-makers and IT executives to understand the nature of technical and business processes and implement correct behaviors that will ensure a practical road for consumer satisfaction. Firstly, the empirical findings connect behavioral elements for grounding IT–business strategies to accomplish organizational goals. Leading to this, behavior is the foundation of launching any system within an enterprise. Executives with gifted behavioral norms can control and guide system functionality up to the best of their expertise and ensure future business–technology requirements. Furthermore, responsiveness, monitoring, and accountability are a good fit for organizational policy formulation and execution depending on stakeholder consensus and trust. Secondly, the empirical findings point out how crucial cultural contributions are in the IT–business context. Adopting the CVE, the study findings report that a hierarchy and management by exception support an influence on IT–business alignment in manufacturing enterprises. This means that strategy developers and executers should keep an eye on internal and external quadrants of the organizational culture that would be a full denotation in terms of technology–business collaboration. Adding to this, decision-makers should apply an appropriate culture that would match behavioral dimensions and the situational setting of the organization. The empirical findings indicate that a tight judgmental environment that contains controlled values would affect organizational success in a big way. Therefore, environmental analysis is critical for any innovation or continuation of existing operations. In the recent competitive environment, organizations are incremental in their approach, largely due to the introduction of IT in business and consumer satisfaction. Therefore, executives are in support of continuous behavioral and structural strategies to survive in business circles on a broader spectrum. In short, a technological net has been the leading force to accomplish organizational visions and missions in the recent past for diversified enterprises.

This study contains certain limitations which will catch the attention of future research. Firstly, this study worked on transactional leadership behavior. Future work can combine multiple dimensions especially counting on a full range of theories of leadership to construct a broader theoretical model in combination with transactional behavior. Secondly, mapping the moderating effect of hierarchy and market culture on the relationship between leadership and IT–business process alignment revealed vital findings; therefore, future work can combine an additional dimension of cultural types in the study model to generate an in-depth investigation. Thirdly, this study was concerned with manufacturing enterprises. Moreover, future work can be conducted by launching a study model in other sectors of the economy to validate study diversification. Fourthly, this study relied on sample evidence with cross-sectional data. Future work can expand the sample size along with longitudinal data to ensure more generalizable results.

**Author Contributions:** Y.W. and M.T.: Both of them conceptualized the idea of the study design and wrote the original draft and methodology. M.T. conducted the review, editing, formal data analysis, and validation. Y.G. undertook the survey and worked on data, review, and editing. All authors have read and agreed to the published version of the manuscript.

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**Informed Consent Statement:** This study is neither concerned with ethical or moral values of humans nor lives of animals; therefore, an informed consent statement is not needed.

**Data Availability Statement:** The data are available upon request.

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