Chapter

Funded Pension Schemes in Aging Societies: A Pure Economic Argument?

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Abstract

This study enables different angel to explore central planners' considerations regarding pension systems in a modern western market with aging influence. In particular, considerable weight has been given to the effect of the crisis due to the pandemic and frequent market turmoil. This study expands the number of players analyzed in the field and takes into consideration different interests among the current and future generations. In addition, we allow differentiation among earning cohorts. By using the overlapping generation model and Monte Carlo simulations, we find that in a wide macroeconomic range, pension equilibrium surprisingly stands with unfunded pension schemes despite the heavy aging influence. Contrary to the classic economic arguments by the World Bank and IMF that were widespread during the 1980s and 1990s, the choice of a pension system is much more complex. We find that the central planner must take into account not only the aging rhythm and market yield but also other parameters, such as the current and future utility perspective, the government's debt price, GDP per capita growth rate, risk aversion, and the possibility of market turmoil.

Keywords: pension system, risk sharing, social security, minimum pension guarantee, externalities, funded pension scheme

1. Introduction

The western world deals with continuous aging, low fertility, and debt crisis that push governments toward funded-capitalized pension schemes [1–3]. A common trend indicates a decline in public pension benefits [4]. Moreover, systemic reforms have changed the nature of pension provisions, shifting more risks onto pension earners. The privatization of pension plans worldwide and the global process toward the appearance of more funded plans raise important thoughts regarding the adequacy and sustainability of pension schemes, their benefits, and falls [5, 6].

According to Milev, "The sharp downturn in the value of financial assets between 2007 and 2009 and the current financial crisis due to the COVID-19 pandemic serve as sharp examples of how risky assets quickly lose a significant part of their value" ([7], p. 2). The financial crises and continuing concerns about retirement security have generated a new interest regarding the role of the country to provide adequate old-age benefits to its citizens. We are witnessing a great wave of pension withdrawals from funded-capitalized schemes, moving toward more governmental intervention. Indeed, according to Altiparmakov, "most of the countries experiencing similar crises were the first to implement new liberal pension schemes during the 1990s" ([8], p. 4).

Late research has demonstrated the importance of balancing funded schemes with unfunded components to increase adequacy and sustainability [6, 9, 10]. These studies strengthen the expanding policy and efforts of worldwide governments to start the economies after the pandemic shocks and in parallel insure old participants from the turmoil markets [11, 12].

In conjunction with the current fiscal expenditures lies the classic economic argument that countries should shift to funded pension schemes due to low fertility [13]. "The shrinking tax base and negative influence of governments on markets are the flags of the Washington Consensus, the World Bank during the 1990s, and other economic institutes" ([14], p. 2).

This composition argues that, from a wide perspective, the rush of governments toward funded pension schemes due to low fertility and fiscal constraints may not be optimal. The current complex environment influenced by the pandemic strengthens this argument. We base this on simple equilibriums in the pension markets based on different macro-economic assumptions. The novelty of this research is demonstrated in the wide array of interests taken into consideration. We avoid treating participants as a single-player and allow intergeneration and intra-generational risk sharing. The adjacent generations allow us to examine the cyclical tax burden, the influence of fertility on future generations, and the statistical returns in the long term. The split to earning cohorts demonstrates different interests of hedging capabilities and different optimal contribution rates, considering tax burden and insurance components in old-age benefits [15].

We suggest balancing funded pension schemes with "unfunded boxes," which may increase the sustainability of the pension system, improving the utility of all players. It is found that in some cases, which are common in Western economies, the optimal pension scheme is surprisingly the pay-as-you-go (PAYG) pension system, even in aging societies.

The next section details the interests of the different players in the pension field as well as the assumptions to the economic model. In Section 3, we set the stochastic model of the pension system, which maximizes the participants' utility, and analyzes how it is best to finance the guarantee. Section 4 provides the main results of the simulations and sensitivity analysis. In Section 5, we discuss the results and their implications, and the last section provides the conclusion.

2. The government and the participants' interests

It is common to determine that the government wishes to decrease its fiscal risks and obligations and hence push for a shift toward an unfunded pension scheme. The fiscal exposure of the government is obviously levied on its citizens [1]. Consequently, it should be the interest of the citizens to shift from the comfort PAYG DB pension scheme to a funded pension scheme. Indeed, some scholars, mainly during the 1990s, supported the transition to a funded scheme, trying to convince people that the alternative is a heavy tax burden [2, 3].

Disassembling the answer to this question to society and different players seems much more complex and far from unambiguous. Since information is not a free asset but a risk in pension systems, framing the argument in the second-best terms starts from the multiple objectives of pension systems. "Policy has to seek the best balance between consumption smoothing, poverty relief, and insurance, and this balance will depend in each society on the weights given to those and other objectives and to the different constraints that societies face" [5].

This composition focuses on the central planner, which has the responsibility to balance the interests of all players—recognizing a variety of earning cohorts and adjacent generations. That variety of actors throughout its length and breadth may represent the entire government perspective. With that, we continue with Altiparmakov [8] and Wolf and Ocerin [9], who suggest that stable pension systems must seek an equilibrium between earning cohorts. Otherwise, the chances are high for pension reforms and reversals [16].

We expand previous overlapping generations (OLG) models [17] by including debt. The consideration of cycle government debt obligates the central planner to make sure that future generations will not be used as a heavy tax source. In the current research, we take future generations' utility as part of the total preferences of the society by simply discounting them. One may claim that the weight for future generations in preferences equations does not necessary derives from the participant's discount factor and may suggest greater weight. We agree with that argument and claim that the equilibrium in that case should still be calculated specifically for every market separately.

The second dimension is the differentiation between high- and low-earning cohorts. Wolf and Del Rio [10, 11, 18] have shown that by shifting to the funded pension scheme, a socio-economic anomaly exists because of the high exposure of low-earning cohorts to market and credit risk without the ability to hedge themselves. They also claim that the optimal contribution rates are generally close to high-earning preferences (see also [9]). In that case, the funded pension market should be included as "externalities," where high earners compensate low earners by risk-sharing. That may include, for example, minimum pension guarantee, intergenerational/intragenerational risk sharing of social security benefits. These processes clearly justify differentiating the considerations and interests of earning cohorts.

3. Model setup

We employ a simple OLG model to characterize optimal pension pillars' sizes. In each period, a new generation of unit mass is borne. We employ this model for four generations. For simplicity, each generation includes three equal life periods cycle frameworks as in Knell [19]: "Individuals work during the first two parts of their life, while they are retired in the third part. The first pillar is unfunded social security, and the second is in the form of individual accounts" ([19], p. 6).

3.1 Consumers

The consumer works over two periods of 23 years each and retires at the age of 67 ($s = T_R$). They live for another 23 years, represented by the third period, and are assumed to die at the age of 90 ($s = T_D$).

During the first 46 years, consumers work and earn a real labor income of W_{t1}. We allow for differentiation in wage levels across earning deciles. From this wage, the individual contributes to social security tax and funded pension fund. The participant consumes the residual after contributions.

During the retirement period ($T_R \leq s < T_D$), the individual's consumption, C_{t,T_R}, is given by the benefits both from public and funded pension pillars. These benefits are collectively denoted by P_t. The consumption of the generation t in time s can be described as follows:

$$c_{t,s} = \begin{Bmatrix} W_{t,s}(1-\tau), \textit{during work period} \\ p^U_{T_R} + p^F_{T_R}, \textit{during retirement} \end{Bmatrix} \quad (1)$$

Individuals have a constant relative risk aversion (CRRA[2]) utility function defined over a single nondurable consumption good. Let us define δ as the discount factor; α measures the curvature of the utility function or risk aversion level, so the individual's preferences are then defined by

$$U_t = \sum_{s=1}^{s=2} \delta^{s-1} \frac{1}{1-a} (c_{t,t+s-1})^{1-a} + \delta^2 \frac{1}{1-a} \left(c_{t,T_R} - mpg_{t,T_R} \right)^{1-a} \quad (2)$$

Here, $C_{t,s}$ is the consumption level of generation t in period$s$, and $mpg_{t,s}$ is the level of government guarantee for generation t in period s.

Consumption is a function of the participant's wage and deductions due to pension contributions (funded and unfunded) and taxes financing government debt. Government's debt can be made due to financing pension guarantees or financing intergenerational gaps in PAYG DB due to aging. These payments are detailed in **Table 1**. In fact, the aging effect realizes in twofold positions. First, by increasing the real debt cost of the government, as fewer people participate in a specified burden. Second, by reducing PAYG benefits per specified contribution rate.

Consistently with the life cycle model of Ando and Modigliani [20], the participant is aware of future interest rate risks and adapts his consumption during the working phase accordingly. If the government supposes to collect extra tax payments to finance the interests of its debts, the individual adapts his/her consumption accordingly.

3.2 Mix pension scheme with dominant funded pillar

Rates of returns are uncertain (*ex ante* expected utility). The GDP per capita growth rate approximates the aggregate wage income, following the same method of Masten and Thorgesen [21], and Wolf and Ocerin [9]. We also assume that the real PAYG rate of return, g_{s+1}, is equal to the growth rate of wages or the change in the GDP per capita.

Consumption	Defined benefit	Mix pension scheme	Mix pension scheme with pension guarantee
During working phase	Wage-pension contributions—tax-financing aging effect (the cost of shrinking tax base)	Wage-pension contributions	Wage-pension contributions—tax-financing guarantee cost of earlier generations
During Retirement	Unfunded pillar with no aging effect	Funded + unfunded pillar	Funded + unfunded pillar + minimum pension guarantee up to the poverty line

Table 1.
Consumption in each pension scheme.

[1] All variables used throughout this paper are expressed in real terms. It is assumed that wage inflation is identical to price inflation.

[2] In the literature, it is common to use the coefficient of relative risk aversion, $RRA \equiv \frac{U''_{(c)}}{U'(c)} * c$, for the utility function of the form.

The parameter g_t describes the evolution of wage, W, which follows a Brownian motion of the following form:

$$\frac{dW(t)}{W(t)} = dg_t = \mu_g dt + \sigma_g dB^W(t), \tag{3}$$

where μ_g stands for the constant expectation of the instantaneous variation rate in the wage, σ_g denotes its constant standard deviation, and B^W represents a standard Brownian motion. The first phrase is a constant drift, and the second phrase is the volatility drift. The term g_{t+1} is the growth of labor income or the return on human capital.

The individual pays a fixed contribution rateτ. From that contribution, a share of γ is invested in a private-funded pillar and a share of $(1-\gamma)$ finances in the unfunded pillar or the public social security. The pension benefit for generation t in the retirement period is denoted by

$$p_{T_R} = p^F_{T_R} + p^U_{T_R}. \tag{4}$$

Here, p^F_{t+2} and p^U_{t+2} represents the funded fund and social security (PAYG), respectively.

We allow a correlation between the GDP per capita and the fund asset return rate, thus

$$dB^W(t)dB^A(t) = \rho_{w,A}dt, \tag{5}$$

with the condition $1 \geq \rho_{w,A} \geq -1$.

We assumed a constant social security benefit based on time of contributions. In each period, the working population's contributions are equal to the total benefit payments to retirees. Consequently, the public unfunded pension benefit is determined using the balanced budget condition of

$$\varphi\tau^U\left\{\overline{W}_{t+1,T_R}N_{t+1} * A + \overline{W}_{t+2,T_R}N_{t+2} * A^2\right\} = \sum_{n=1}^{N_{T_R}} p^U_t \tag{6}$$

Here, τ^U is the contribution rate to social security, N_t is the size of the generation born in period t, and p^U_t is the unfunded pension benefits paid to generation t in the period T_R. The term φ is the constant social security's old-age benefits/contribution ratio. The residual share $(1-\varphi)$ of contributions finance other social expenses pertaining to Medicare, means-tested, minimum pension guarantee, disability benefits, unemployment benefits, and other social expenses. The tax base in each generation is shrinking due to the aging of societies. Consequently, A represents the aging factor of each contributor generation to social security.

Under the assumption of constant population growth, ni_t, the contribution $\tau^U w_{t,s}$ is paid by generation t in time s; thus, there is a return of $g_{s+1} = (W_{t,s+1}/W_{t,s}) - 1$. In addition, we assume the economic principle of Aaron [22] that the notional interest rate or the population growth rate is set equal to the growth rate of wages: $ni_t = g_t$. Hence, the unfunded benefit at retirement can be described in the following reduced form:

$$P^U_{t,T_R} = \varphi(1-\gamma)\tau\sum_{t=1}^{T} \partial_d \overline{W}_{t+1,T_R} * \left(A + A^2\right), \tag{7}$$

where ∂_d is a constant parameter per earning decile that adjusts the benefit to contribution level. This mechanism is similar to the Notional Defined Contribution

(NDC) pension scheme and ensures higher benefits for high earners in relation to their contributions.

The funded-capitalized pillar is a private collective defined-contribution (DC) system with a fixed contribution rate. Individuals start with zero initial asset holdings. Subsequently, the individual adds the fraction of γw_t to his accumulations during the working phase, which is invested in a constant portfolio mix of financial assets (equities, bonds, etc.). This accumulation earns an average annual rate of return of r_t. This rate of return also follows a Brownian motion of the following form

$$dr_s = \mu_r dt + \sigma_r B^A dt \tag{8}$$

Here, r_t denotes the continuous rate expectation of the asset instantaneous return rate, σ_r stands for its constant standard deviation, and B^A indicates the standard Brownian motion. The first phrase from the left is a constant drift, and the second phrase is the volatility drift.

The funded pillar is equal to the accumulated capital from the contributions to the private collective defined-contribution fund during every working period until retirement (T_R). The real capital is given by

$$p_t^F = \left(1 - T^f\right)\left(1 - I^f\right)\tau^F \sum_{s=t}^{T_R} W_{t,s} {r_t}^{T_R - t} \tag{9}$$

Here, T^f is the effective tax rate on old-age funded fund's benefits. I^f is the fraction from the contributions that represent insurance contributed from the pension fund, such as disability. Funded fund's liabilities are based on the current and future retiree's benefit payments. The funded benefit can be described more specifically as

$$p_t^F = \gamma \tau W_t r_{s+1} r_{s+2} + \gamma \tau W_{t+1} r_{s+2} \tag{10}$$

Due to the assumption that there is only one period of retirement, it is not necessary to specify how the pension capital of the funded pillar is annuitized or amortized, that is, transformed into annual pension installments.

3.3 Pension guarantee

The government considers implementing a minimum pension guarantee when imposing the funded pension scheme. The periodical guarantee is at the poverty level, meaning 0.6 of the median earnings decile. We calculate the cost of the guarantee as

$$Guarante\ cost\ at\ time\ t = p.\,l\ at\ time\ t - \left(p_t^F + p_t^U\right) \tag{11}$$

The poverty line itself is growing every period by the GDP per capita growth rate. However, the guarantee cost depends on the income inequality in the market and stays constant as a percentage from the GDP. The guarantee cost is financed by the government in the form of tax levied on future generations.

3.4 PAYG DB pension scheme

Pension benefits are calculated using the same method of the unfunded pillar described above. The difference is that total contributions are for the unfunded pillar ($\gamma = 0$). In addition, retirees benefit from the constant contribution level. The government, through debt, finances the exposure of aging, which reduces the intra-generational financing base.

$$P^{DB}_{t,T_R} = \varphi\tau \sum_{t=1}^{T} \partial_d \overline{W}_{t+1} * 2 \tag{12}$$

As the government keeps benefit retirees at the same original level before transition, the shrinking tax base is translated to a fiscal expenditure. That expenditure is financed by future generations as tax payments in the amount of

$$P^{DB}_{t,T_R}\, government\ share = \varphi\tau \sum_{t=1}^{T} \partial_d \overline{W}_{t+1} * \left(2 - \left(A + A^2\right)\right) \tag{13}$$

3.5 Government debt

Government finances two different obligations through debt and future tax. The first is the guarantee cost in mix funded pension scheme. The second is the aging influence of the intra-generational tax base from generation to generation.

For each of these expenses, we assume a debt cycle of four periods. In the first period, the fiscal expense is realized. Over the next two periods, the working population pays the interest rate component as tax, while during the fourth period, return also the principle in addition to the periodical interest payment. In total, in each period, the working generation pays three interest rate components of past debts and a single principle of past debt.

3.6 Different earning cohorts

We allow different preferences among earning cohorts. In fact, this diversity is one of the most important novelties of this research. We assume that high-earning cohorts benefit from a higher share of GDP growth than low earners, in increasing order. In parallel, high earners levy a higher share of tax payments, progressively. For example, the tax burden on decile 4 is only 5% from payment, while it is 30% on the highest-earning decile. **Figure 1** summarizes the differentiation across different earning deciles.

We value the preferences of earning cohorts to the different pension schemes by the change of average utility computed according to each of the three pension schemes analyzed. For simplicity, we group these preferences by deciles 1–4 for low-earning cohorts and 7–10 for high-earning cohorts.

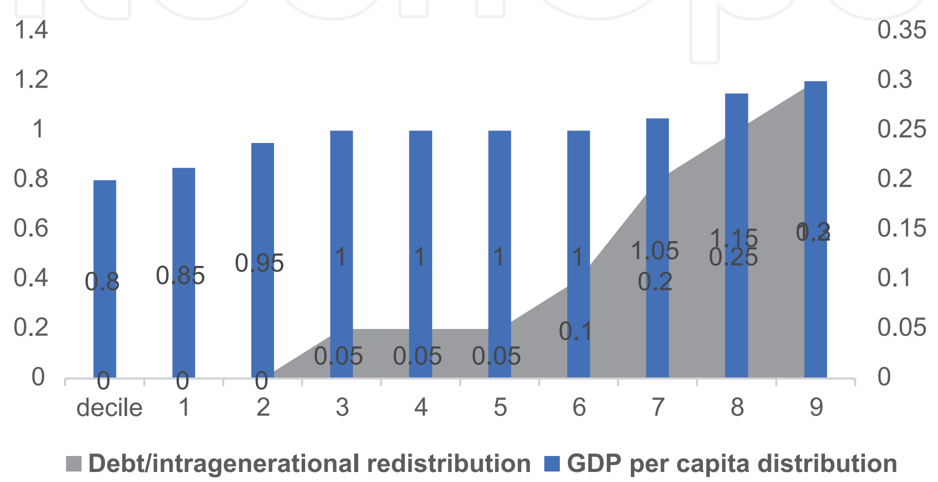

Figure 1.
Earning deciles.

4. Simulation and calibration

The GDP per capita stochastic yields turn to be stochastic the variables of periodic wage, poverty line, defined benefit pension scheme, and social security. The market yield affects the funded pension pillar stochastically. We use Monte Carlo simulations to simulate the level of the guarantee cost in each generation and the level of governmental debt due to imposing defined benefits in each generation. Another set of Monte Carlo simulations is conducted to compute the preferences of each earning cohort for each generation among funded pension schemes, funded schemes with guarantees, and defined benefit pension schemes.

For each generation, the preference of pension scheme depends on the utility of each earning cohort in each generation. For comparability, we compute the relative preference of the mix pension scheme over the DB and respectively the preference of the mix pension scheme with a guarantee over the DB. Monte Carlo simulations simulate these pairs of ratios.

Analyzing the results, we make a differentiation between low- and high-earning cohorts. For each set of results, we discount the preferences of the four generations to a single number.

We calibrate the model as of the average western OECD country, using its updating database [4]. In the base scenario, the government capital cost is 0.5%, the GDP per capita is 1.6% per year, and the average net pension market yield is 3.74%. The contribution rates to pension pillars are derived from countries such as Denmark and Israel that run dominant funded pension schemes [4]. We take into consideration the aging trend in Western countries. We assume the high aging influence as conservative in analyzing the rush toward the funded scheme. In that case, similar to Germany and Spain, the dependency ratio increases by 0.4% every year. The sensitive analysis is conducted to map the trends of preferences as a

Wage and pension systems	
Contribution rate	0.3
Funded rate from contributions	0.75
Annual Expected S.D. of funded pillar	18%
Gross return [4]	4.3%
Admin. Cost	0.5%
The funded Benefit tax rate	20%
Annual Expected GDP per capita – g	1.6%
Annual GDP S.D	2%
Social Security Benefit / Contribution coeff.	60%
Insurances in funded pension funds from contribution	25.00%
Macro-economic parameters	
Risk Aversion Coeff. (Base Scenario)	3
Annual Interest rate (Base Scenario)	0.10%
Total population annual growth	0.30%
Dependency ratio annual change	0.4%
Annual discount factor	G + 1.3%

Table 2.
Calibration.

function of risk aversion and interest rate gap. We summarize the calibrations variables in **Table 2**.

5. Results and insights

While there is no debt financing the funded pension scheme, there is small debt financing the DB pension scheme (the aging effect) with a constant percent from GDP. We map higher debt level financing the guarantee, reducing in time, if $> r_f$.

In the Western market, the government interest rate is generally lower than the GDP per capita rate, while the market yield (r) is higher than both. In times when the difference between the market yield and the GDP per capita increases, markets will prefer to shift to a funded pension scheme and vice versa. Here, we point out the government capital price as also an important factor as it affects the preferences of future generations. A coherent pension system, which considers multiplayers' preferences, cannot avoid the tax/PAYG burden levied on the working population or future generation in the form of cycle tax payments.

5.1 PAYG DB scheme vs. funded pension scheme

For each generation, we check the preferences between PAYG DB and the funded pension scheme via 2100 Monte Carlo simulations. Each simulation calculates the OLG model with the aforementioned assumptions. **Figure 2** describes these preferences by earning cohorts and as a function of the rate of returns gaps (GDP per capita minus the government interest rate). The more positive the preference value, the more the preference tends toward the funded scheme. By the same logic, the more negative the value, the more they prefer the DB pension scheme.

As expected, high earners prefer the funded pension scheme, while low earners tend to prefer the DB scheme. For high earners, the reasons for this are the potential for higher benefits and the avoidance of financing pension gaps of unfunded transfers due to aging and the shrinking labor force.

Low-earning cohorts prefer the DB pension system as it enables insurance although the benefits in the funded scheme are higher on average. As time goes by, in both earning cohorts, the attractiveness of the funded scheme increases as the average returns of the funded scheme is higher than the GDP per capita, and naturally, the insurance for the long term is less considered in the utility measure.

When increasing the risk aversion coefficient from 3 to 5, low earners become almost indifferent between funded and unfunded pension schemes. This is because, in high-risk aversion measures, participants put considerable weight on their current consumption more than their old-age benefits. Since consumption does not change, the total utility change is almost constant.

According to **Figure 3**, for high earners, the preferences concerning unfunded pension schemes are dramatic. That tendency is moderated with generations and when government debt cost increases. In other words, even when the tax burden due to aging is levied on high earners' consumption and their old-age benefits are lower than in the funded pension scheme, they will rather strongly prefer unfunded pension schemes along most of the returns gap array. Additionally, when risk aversion increases, high earners' preferences for the PAYG DB pension system increases as opposed to mix pension with pension guarantee. We explain that as of high insurance embedded in the first option and lower tax burden. That conclusion is highly important mainly in times of turmoil markets.

Panel A: Low Earning Deciles						
Interest rate gap / Generation Preference		A	B	C	D	Preference to end of genertion A
g-r	1.50%	-2.21%	-1.31%	-0.73%	-0.39%	-3.7%
	1.30%	-2.03%	-1.14%	-0.64%	-0.36%	-3.2%
	1.10%	-1.77%	-1.05%	-0.59%	-0.31%	-2.8%
	0.90%	-1.54%	-0.94%	-0.51%	-0.27%	-2.4%
	0.70%	-1.38%	-0.80%	-0.43%	-0.22%	-2.1%
	0.50%	-1.26%	-0.69%	-0.37%	-0.17%	-1.8%
	0.30%	-1.06%	-0.58%	-0.28%	-0.12%	-1.5%
	0.00%	-0.74%	-0.37%	-0.15%	-0.03%	-1.0%

Panel B: High Earning Deciles						
Interest rate gap / Generation Preference		A	B	C	D	Preference to end of genertion A
g-r	1.50%	-3.34%	-2.74%	-3.82%	-2.91%	-8.5%
	1.30%	-0.32%	0.35%	-0.01%	1.59%	0.4%
	1.10%	3.23%	2.67%	1.93%	4.43%	7.1%
	0.90%	5.00%	5.74%	8.03%	8.84%	14.0%
	0.70%	8.88%	9.22%	10.96%	12.91%	21.5%
	0.50%	12.59%	13.76%	15.70%	17.89%	29.3%
	0.30%	16.14%	18.00%	19.92%	22.19%	35.8%
	0.00%	22.37%	24.91%	26.66%	29.82%	46.7%

Figure 2.
Generations' preferences of PAYG DB vs. funded scheme in the base scenario (a = 3).

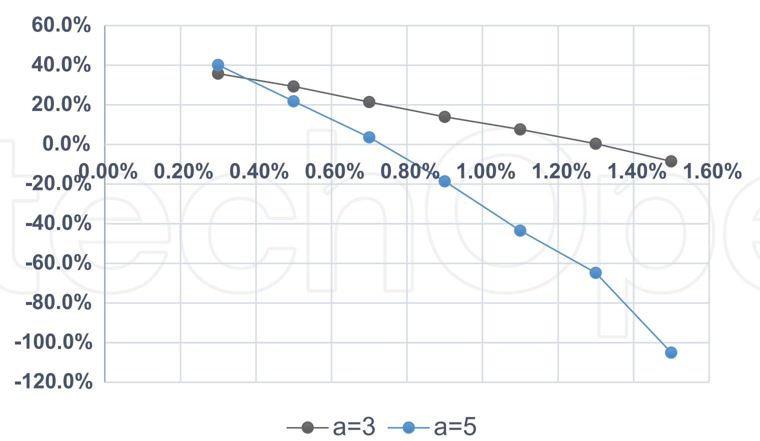

Figure 3.
High earners' preference when risk aversion increases.

5.2 PAYG DB scheme vs. mix pension scheme with pension guarantee

Figure 4 compares along with the base scenario the preferences for PAYG DB scheme and mix pension scheme with pension guarantee. According to the results, there is not much difference between the two possibilities (the blue line) according to low earners. The benefit level is quite similar; in both cases, there is an insurance component, and in both cases, the tax burden does not fall on this earning cohort's

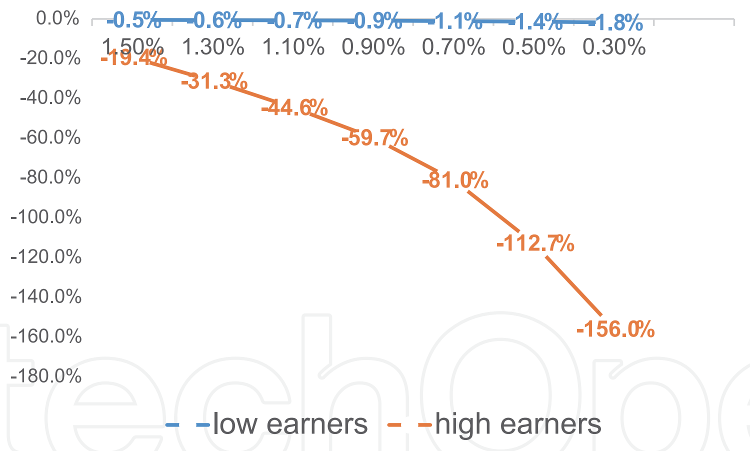

Figure 4.
The preference between PAYG DB and mix pension system.

shoulders. As the gap between the GDP per capita and the government's interest rate decreases, the discounting factor diminishes and the attractiveness of the PAYG DB decreases. It is most interesting to understand the results for high earners, who finance the insurance components in both of these pension systems. It is significant to determine that high earners would prefer the PAYG DB pension scheme over the alternative. The reason for this is mostly the high financing cost of the guarantee. **Figure 4** depicts that when government's interest rate increases (small gap), the preference for PAYG DB increases accordingly, avoiding a higher tax burden.

As we allow differentiation in deciles' wealth growth, the income inequality increases with time. The poverty line is indexed to the GDP per capita while high-earning deciles' wealth growth faster. That makes the guaranteed price to be relatively lower along with generations, which comes to realize by decreasing percent from total GDP.

In general, if the GDP per capita is higher than the government interest rate, clearly, the central planner would prefer to accumulate debt and roll it over the years, as the principal and interest rate payment decrease as percent from the GDP. Along with generations, the preferences toward the DB pension scheme tend to decrease as the average return effect increases. However, for high earners, the attractiveness between the two pension schemes is not ambiguous. High earners prefer the DB pension scheme because of the lower tax burden during the working phase. In other words, they prefer to pay lower old-age benefits than to pay the relatively high tax burden due to the guarantee.

5.3 Finding an equilibrium point

Equilibrium in pension systems is not only dealing with a question of the economy but also involves social targets [23]. Even when poverty alleviation is highly weighted among the central planner's considerations, it is not straightforward to implement mix pension system with a minimum guarantee. Although low earners only slightly prefer the unfunded scheme over the mix with the guarantee, high earners significantly prefer the unfunded scheme and avoid financing the high costs of the guarantee. Consequently, among these two options, from a wider perspective of all players, the system should be set at the PAYG DB pension system.

That conclusion is certainly relevant in an aging society having clear economic characteristics of Western countries. In other words, the potential old-age benefits for high benefits in the funded pension scheme are offset with the tax burden to fund social targets.

In this research, we show that the PAYG DB is a common equilibrium even when releasing the assumption of social targets. One can see that in **Figure 2**, wherein the gap between the GDP per capita and the government debt cost is large (1.5–1.3%), the players would prefer the PAYG DB. That simple equilibrium is also relevant when risk aversion increases or the yield's standard deviation increase. Naturally, in these situations, participants prefer safer benefits even in the cost of lower consumption during the working phase. That conclusion is most relevant when markets are not stable, for example, during the COVID-19 pandemic crisis.

More complex scenarios can be found when the gap between the GDP per capita and government debt price is narrowed. For example, in **Figure 2**, when the gap is at 1.1%, low earners prefer the unfunded pension scheme (measure of −2.8%). Similarly, high earners prefer the funded scheme (measure of 7.1%) while resisting the mix scheme (measure of −44.6% in **Figure 4**). The lack of preference of neither of the players toward the mix pension system suggests it's from the realistic equilibrium variety.

Between the unfunded and the funded pension scheme, we seek a point satisfying the players' interests, which in turn increases the chances to system

Panel A GDP per capita - government interst rate = 1.1%						
Earning cohort	Box size (%GDP)	A	B	C	D	Preference to end of genertion A
The Base Scenario						
low	3.30%	-1.77%	-1.05%	-0.59%	-0.31%	**-2.8%**
high	3.30%	2.80%	3.00%	3.63%	4.34%	**7.6%**
Finding Equilibrium Point						
high	**3%**	-7.63%	-8.82%	-8.45%	-9.00%	**-19.7%**
high	**2%**	-4.35%	-4.66%	-3.84%	-4.24%	**-10.3%**
high	**1%**	**-1.24%**	**-1.39%**	**0.27%**	**0.66%**	**-1.9%**

Panel B GDP per capita - government interst rate = 0.9%						
Earning cohort	Box size (%GDP)	A	B	C	D	Preference to end of genertion A
The Base Scenario						
low	3.60%	-1.77%	-1.05%	-0.59%	-0.31%	**-2.7%**
high	3.60%	2.80%	3.00%	3.63%	4.34%	**7.2%**
Finding Equilibrium Point						
high	**2%**	**-1.71%**	**-1.59%**	**-1.02%**	**-0.71%**	**-3.3%**
high	**1%**	3.08%	2.48%	3.61%	4.81%	**7.3%**

Panel C GDP per capita - government interst rate = 0.7%						
Earning cohort	Box size (%GDP)	A	B	C	D	Preference to end of genertion A
The Base Scenario						
low		-1.38%	-0.80%	-0.43%	-0.22%	**-2.1%**
high		8.88%	9.22%	10.96%	12.91%	**21.5%**
Finding Equilibrium Point						
high	**3%**	**-0.37%**	**-1.06%**	**-0.23%**	**-0.65%**	**-1.2%**
high	**2%**	3.02%	2.84%	3.10%	3.96%	**6.8%**
high	**1%**	6.89%	5.93%	7.27%	8.93%	**15.2%**

Figure 5.
Finding an equilibrium point in the funded pension scheme.

sustainability. With a given macroeconomic parameters, we seek a new mix pension system, which includes an "unfunded box," shifted from high earners to low earners, at retirement. That shift compensates low earners to excess market risk and their low abilities to hedge it. From another economic angle, high earners finance this compensation due to the characteristics of contribution rates being close to being optimal for high earners and sub-optimal for low earners [10, 11, 18]. In fact, this shift creates equilibrium as part of the "externalities" theory and alleviates the inherent socio-economic anomaly in funded pension schemes, which is in favor of high earners.

Finding the unfunded "box" size, we analyze the preferences while low earners benefit from it and high earners finance it. **Figure 5** plots the convergence process to equilibriums based on the funded scheme along with the unfunded box. We learn that even is a small amount of shifting (low box size), high earners would prefer to stay in the DB PAYG scheme. That is valid even for debt levels that are far lower than the PAYG DB base scenario. For example, in panel A, when the returns gap is 1.1%, high earners would prefer the PAYG DB even with a minimum level of the box (1% of GDP). In panel B, when the gap is shorter, the equilibrium will be set at the funded scheme with an unfunded box of 2% of the GDP. In these two cases, one can determine that the equilibrium is extremely fragile, meaning it is actually the PAYG DB scheme. In panel C, when the returns gap is at 0.7%, the suggested equilibrium is the funded scheme with an unfunded box of 3% of the GDP. From that gap level and lower, the model suggests equilibrium involving the funded pension scheme.

6. Discussion

The influence of aging is perceived as an intergenerational burden [24], which increases over the years. That was used in the base arguments of the World Bank in convincing economies to shift to funded pension systems during the 1990s [25]. The motivation to converge to equilibrium is first of the government's itself, avoiding fiscal expenses on reverting and ensuring political support from all players [26].

The fiscal concerns due to the aging process are indeed intuitive; however, it might push governments to endorse funded pension schemes too fast. According to the findings, the insurance effect of the unfunded pension scheme is beneficial even at the cost of a shrinking tax base. A low-interest rate environment and a sufficient gap between the GDP per capita and the government's interest rate mostly suggest keeping unfunded pension schemes. In markets with a narrowed gap, equilibriums can be established with a funded pension scheme with some unfunded box strengthening low earners pensions at retirement. One has to mention that the equilibrium with the funded scheme is mostly fragile, where a slight change in the macroeconomic variables, will cause even high earners to prefer the unfunded pension scheme. In addition, the preferences toward unfunded schemes are strengthened in times of unstable markets.

In addition to the results, supporting a mix pension design with a risk-sharing mechanism, we count another fiscal motive of the government to avoid extensive funded scheme, surprising, as it may be sound. Altiparmakov [8] shows that CEE countries revert to unfunded pension schemes to control all sorts of contributions and taxes of their citizens. In other words, in times of financial crisis, governments wish to raise chip money, and unfunded contribution is a fast way to do that.

7. Conclusion

The key feature of this research is the consideration of multiplayers in the field, as the pension system effects across generations and earning cohorts. By treating society as one single entity managing financial risks, we may lose the opportunities to disclose other interests and avoid potential equilibriums in the markets. Seeking stable pension markets is one of the top priorities of central planners, especially during the period of uncertainty in other markets due to the pandemic and global debt crisis.

While the preferences for low earners are clear toward the unfunded pension scheme, for high earners, it is most interesting to examine their preferences. Here, we consider the assumptions of mutual risk-sharing among earning cohorts, solving the inherent socio-economic anomaly in the funded scheme, which favors high earners at the expense of low earners [10, 11, 18].

The findings point that central planners must not rush for funded pension funds although societies are aging. The rush after funded pension schemes in aging markets must not be turned to way out of governments to consider multiplayers game and avoid other macro-economic parameters, such as debt level, debt price, and GDP per capita factors. Here, we mention the global trend of shifting to funded schemes even in non-aging markets, such as in Israel [27]. We find in this composition that the unfunded pension scheme should be considered as most efficient to all actors in a wide variety of macroeconomic conditions, especially when the interest rates are very low, as it is in this period.

In times of the pandemic, central planners have to minimize the possibilities of unstable pension markets and reversals. The period for itself increases the motive to find a sustainable equilibrium in the market. In addition, governments have to reconsider the frightened in the markets in these times. In our model, that comes to realize by the higher standard deviation of the market yield and higher risk aversion. Both realizations imply higher chances for equilibrium in the unfunded pension scheme. These results come despite the aging of societies.

Classification

JEL: D14, E21, E61, G11, G18, G22, G32, H23

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References

[1] Clements B, Dybczak K, Gaspar V, Gupta S, Soto M. The fiscal consequences of shrinking and ageing populations. Ageing International. 2018;**43**:391-414. DOI: 10.1007/s12126-017-9306-6

[2] Feldstein M. Structural reform of social security. Journal of Economic Perspectives. 2005;**19**(2):33-55. DOI: 10.1257/0895330054048731

[3] Holzmann R, Hinz R. Old-Age Income Support in the 21st Century: An International Perspective on Pension Systems and Reform. Washington, DC: The World Bank; 2005. DOI: 10.1596/0-8213-6040-X

[4] OECD. Pension at Glance 2020: OECD and G20 Indicators. Brussels: OECD Publishing; 2019. DOI: 10.1787/b6d3dcfc-en

[5] Barr N, Diamond P. Reforming pensions: Principles, analytical errors and policy directions. International Social Security Review. 2009;**62**(2):5-29. DOI: 10.1111/j.1468-246X.2009.01327.x

[6] Ebbinghaus B. Multi-pillarisation remodelled: The role of interest organizations in British and German pension reforms. Journal of European Public Policy. 2019;**26**(4):521-539. DOI: 10.1080/13501763.2019.1574875

[7] Milev J. The pandemic crisis and the resulted risks for the fully funded pension funds in Central and Eastern Europe. Research Papers of UNWE. 2021;**2**(1):203-216

[8] Altiparmakov N. Another look at causes and consequences of pension privatization reform reversals in Eastern Europe. Journal of European Social Policy. 2018;**28**(3):224-241. DOI: 10.1177/0958928717735053

[9] Wolf I, Ocerin JMC. The transition to a multi-pillar pension system: The inherent socio-economic anomaly. Journal of Financial Economic Policy. 2021. DOI: 10.1108/JFEP-07-2020-0162

[10] Wolf I, Del Rio LCL. Funded-capitalized pension designs and the demand for minimum pension guarantee. Public and Municipal Finance. 2021;**10**(1):12-24. DOI: 10.21511/pmf.10(1).2021.02

[11] Wolf I, Del Rio LCL. Benefit adequacy in funded pension systems: Micro-simulation of the Israeli pension scheme. International Journal of Economics & Business Administration. 2021;**9**(2):143-164. DOI: 10.10.35808/ijeba/694

[12] Feher C, Bidegain I. IMF Report. July 2020

[13] Gruber J, Wise DA. Social Security and Retirement Around the World. Chicago: University of Chicago Press; 2008. DOI: 10.7208/9780226309996

[14] Heneghan M, Orenstein MA. Organizing for impact: International organizations and global pension policy. Global Social Policy. 2019;**19**(1-2):65-86. DOI: 10.1177/1468018119834730

[15] Wolf I. Political stress and the sustainability of funded pension schemes: Introduction of a financial theory. Journal of Risk and Financial Management. 2021;**14**(11):1-12. DOI: 10.3390/jrfm14110525

[16] Ortiz I, Durán-Valverde F, Urban S, Wodsak V. Reversing Pension Privatizations: Rebuilding Public Pension Systems in Eastern Europe and Latin America. Geneva: International Labour Organization; 2018. DOI: 10.2139/ssrn.3275228

[17] Cipriani G, Fioroni T. Social security and endogenous demographic change: Child support and retirement policies*.

Journal of Pension Economics and Finance. 2021:1-19. DOI: 10.1017/S1474747220000402

[18] Wolf I, Del Rio LCL. Pension reforms and risk sharing cycle: A theory and global experience. International Journal of Economics & Business Administration (IJEBA). 2021;**9**(1):225-242

[19] Knell M. The optimal mix between funded and unfunded pension systems when people care about relative consumption. Economica. 2010;**77**(308):710-733. DOI: 10.1111/j.1468-0335.2009.00797.x

[20] Ando A, Modigliani F. The "life cycle" hypothesis of saving: Aggregate implications and tests. The American Economic Review. 1963; 53(1): 55-84. Available from http://www.jstor.org/stable/1817129 [Retrieved: February 23, 2021]

[21] Masten E, Thorgesen O. Designing social security—A portfolio choice approach. European Economic Review. 2004;**48**(4):883-904. DOI: 10.1016/j.euroecorev.2003.09.006

[22] Aaron H. The social insurance paradox. Canadian Journal of Economics and Political Science. 1966;**32**(3):371-374. DOI: 10.2307/139995

[23] Barrientos A. Social protection in Latin America: One region two systems. In: Cruz-Martínez G, editor. Welfare and Social Protection in Contemporary Latin America. London: Routledge; 2019

[24] Bohn H. Should public retirement plans be fully funded? Journal of Pension Economics and Finance. 2011;**10**(2):195-219. DOI: 10.1017/S1474747211000096

[25] Noy S. Healthy targets? World Bank projects and targeted health programmes and policies in Costa Rica, Argentina, and Peru, 1980–2005. Oxford Development Studies. 2018;**46**(2):164-183. DOI: 10.1080/13600818.2017.1346068

[26] Guardiancich I, Guidi M. The political economy of pension reforms in Europe under financial stress. Socio-Economic Review. 2020:mwaa012. DOI: 10.1093/ser/mwaa012

[27] Lurie L. Pension privatization in Israel. In: Paz-Fuchs A, Mandelkern R, Galnoor I, editors. The Privatization of Israel. New York: Palgrave Macmillan; 2018. DOI: 10.1057/978-1-137-58261-4_5

Chapter

Informality and Entrepreneurship in Developing Economy: Case for Entrepreneurial Financing

Sule Omotosho

Abstract

Over a decade ago, scholars in different domains of knowledge such as strategic management, economics, accounting, and finance have largely contributed to the theoretical and empirical studies of entrepreneurial financing. However, bridging of the domains or the theories that underly the domains, and expanding the frontier of the phenomenon in the context of informal entrepreneurship, are missing in the literature. This paper attempts to conceptualise and problematise various issues that confront informal sector entrepreneurship in accessing adequate financing for start-up opportunity, innovative products, services and technology in the informal markets, and explore how the ambiguity of the diverse domains of knowledge of entrepreneurial financing could be resolved by unifying and integrating the domains within a unique framework. Equally, this paper also aims to provide theoretical contributions to the extant literature of entrepreneurial financing by suggesting how management accounting research can bridge the gaps of informality problems that confront informal entrepreneurial financing. There is no doubt that informal businesses are saddled with legitimacy concerns such as non-conformity with legality and institutionalised policies. Similarly, the sector is also confronted with the issues of information asymmetry, moral hazard conflict, informal financial and ownership structure. Nonetheless, the informal entrepreneurship sector unarguably has a relevance to the opportunity discovery and innovativeness dimensions of entrepreneurial orientation, with the consequence of positive contributions to the economy in terms of large-scale employment growth. Hence, the scholars in the accounting discipline can leverage on the emerging different financial technology and fund providers to expand the literature on how the untold hardships and complexity that surround the funding of informal entrepreneurial start-ups and innovation can be mitigated. Management accounting discipline, being an applied field of strategic management can play vital roles in mitigating the aforesaid problems of informal entrepreneurship funding, if it could focus on expanding the literature or methodology on goal congruence, information management and controls, financial contracting model, incentive modelling for regulatory policy and search and match model that focuses on informal entrepreneur, investors and financial intermediaries.

Keywords: informality, institutions, entrepreneurship, entrepreneurial financing, economy, innovation, opportunity

1. Introduction

Seeking and taking advantages of emerging entrepreneurial opportunities in a socio-economic environment that is saddled with volatility, shock, turbulence, munificence and disruption could be an arduous task for entrepreneurship to evolve, thrive, and grow the economy at a space and speed that are desirable for fast economic growth and development. The fact that entrepreneurship is both formal and informal makes such opportunity-seeking and advantage-taking to be diverse, complex and highly competitive.

Unarguably in the extant literature, entrepreneurship is considered an engine and a key driver of growth [1, 2]. However, this notion of entrepreneurship-driven growth is often downplayed in most of the developing economies [3], because the substantial part of their economies is largely informal [4]. This informality engenders entrepreneurship to be significantly influenced by the economic policies and institutional forces to the extent that emerging and localised innovative ideas and financing of such opportunities have become a critical interplay of the economic activities [5].

This paper aims at discussing gaps that were observed in the extant literature and empirical evidence relating to the entrepreneurial financing of the informal sector, and explores how the domain of accounting knowledge, specifically the management accounting field, could play a key role in advancing the frontier of informal entrepreneurship financing in the twenty-first century.

In this chapter, the key issues surrounding informal sector entrepreneurship are problematized while the emerging financial technology (FINTECH) and new outlets for funding existing and new business ventures, innovative products and technology are discussed alongside the potential impacts on informal entrepreneurship.

To navigate how the theoretical gaps could be closed, theoretical framework that demonstrates the linkages among different variables of the entrepreneurial phenomenon and charts the pathways to which the suggested contributions mitigate the financing bottlenecks of the informal entrepreneurship is conceptualised.

In conclusion, this paper has implications on accounting research both theoretically and in practice. First, it highlights core areas of management accounting that are relevant to the knowledge exposure of the entrepreneurial financing where fragmentation of theory and pragmatism have tended to limit the impacts of academic research on practitioners and impedes clarity of communication between theory and practice [6].

Second, where accounting profession can be more appreciated and be seen as co-pilots that drive standardisation and innovativeness of information management and tools that are relevant to entrepreneurial ventures in the informal sector, particularly in the developing or emerging economies.

2. Informal entrepreneurship and developing economy

2.1 Introduction

The informal sector of an economy depicts a channel through which unregulated but organised business endeavours take place among different stakeholders, particularly the people at the bottom of the pyramid in an environment that is characterised by poverty and inequality. The business activities within the sector are mostly transacted outside the boundary of government regulations but firmly reside within the confines of informal structures that are encapsulated in culture, norms, convention and rules [7].

The understanding of informal entrepreneurship is ambiguous and has diverse conceptualisation in the literature. This is because the insight into informality as an economic unit, varies across scholars [8]. While some scholars see informality in the sense of legality, which denotes those informal businesses are compulsorily brought into being as a result of rigid and strict regulations, others see it under the lens of structuralists, as a "safe-haven" for those who could not find jobs in a formal structure of the economy.

Informality is also perceived under the purview of voluntarists as a "necessity-driven" avenue for seeking entrepreneurial opportunities when there is no hope in the formal sector. By whatever way we perceive the informality phenomenon, there is evidence that the informal entrepreneurship sector contributes positively to the growth and wealth of the economy, although in some cases, it also dilutes economic growth [4, 9].

2.2 Informal sector entrepreneurship and its economic impacts

Scholars continue to debate the extent to which numerous firms and individual actors in the informal economic environment impact growth of the economy, despite having a larger population of the economy engaged in trading, street vendors, public markets, subsistence farming and self-employment among other informal economic activities [9]. In this paper, informal entrepreneurship is viewed under the lens of opportunity discovery and innovativeness dimensions of entrepreneurial orientation.

An entrepreneurial opportunity was succinctly put as "situations *in which new goods, services, raw materials, markets and organisational methods can be introduced through the formation of new means, ends, or means-ends relationship*" [10]. The author argues further that although opportunities are discovered, the locus of changes in product, services, etc., sources of the opportunities regarding information asymmetry, demand and supply sides, the dichotomy of rent-seeking and productivity-enhancing, as well as the quality and influence of the change initiator, are of utmost importance.

The dimension of innovativeness, on the other hand, is characterised by a new product, new technology, new channel and new market that are unique and create differentiation advantage over the existing products, channels or markets [11].

Considering that there is a linkage between formal and informal entrepreneurship, it is apparent that such interconnectedness is an avenue for informal entrepreneurs to discover entrepreneurial opportunities to create new products, services or technologies. Moreover, the limitation of opportunities in the formal sector arising from over-regulation or excessive legal constraints can also become a source for entrepreneurial opportunities for the informal sector to explore and exploit [11].

Similarly, when a section of formal sector products or services is transitioned or outsourced to informal markets, this could inspire an entrepreneurial opportunity for informal entrepreneurs to exploit. However, it is argued that, rather than gaining from collaborative and mutual benefits of the formal-informal sector linkage, the informal sector is cannibalised by the formal sector which preys on the innovativeness of informality through free-riding and risk-shifting. Hence, the frugality of innovation tending towards a reconfiguration of informal sector opportunities and innovativeness to further the growth of the formal sector [12].

Notwithstanding the above, the question as to whether informality helps entrepreneurs to achieve firm growth still lingers, and if it does, how does the firm growth translate to economic growth? The main issue is that the informal sector has been seen in the shadow of the formal sector because of its lower productivity, less technology-driven, poor access to qualified or competent human capital, poor access to financial credit and out of formal institutional coverage [4, 13]. With these characteristics, the informal sector in the developing countries has not been growing in tandem with the growth of the overall economy. It rather shrinks and gives ways to further development of the formal sector.

This position is supported by IMF Regional Economic Outlook (REO, 2017) which suggests that the productivity levels of informal firms are strictly lower than that of formal firms based on the real output per worker (*25% of small formal firms & 19% of medium-sized formal firms*).

In contrast to the widely held notion of the lower economic performance of informal sectors, some scholars have argued that informality did contribute positively to economic growth and has become a destination for the development of a country rather than continues as a journey. For instance, there was a finding that a strong positive correlation exists between informality and firm growth, and the probability of informal entrepreneurs achieving their set objectives is higher than the formal entrepreneurs achieving theirs [14].

The other positive areas of informality to economic growth in developing nations can be traced to trade and self-employment. Trade liberalisation has the consequence of spillovers of workers from the formal sector to the informal sector as a result of the drop in demand and supply of goods and services. This unabsorbed labour may then take a new opportunity or be self-employed [15, 16]. This situation plays crucial roles in the reallocation of resources to the informal sector, thus reducing apparent unemployment in the economy. Given the above, it can be concluded that informality has some positive correlations to the growth of the economy, particularly in sub-Saharan Africa which has the largest settlement of informal economic activities in the world.

To illustrate this with data, IMF Regional Economic Outlook shows that the informal economy in sub-Saharan Africa contributed between 25% and 65% to the Gross Domestic Product (GDP) of the region. The regional informality also accounts for 30–90% of the total employment in the non-agricultural sector, while the unweighted average share of the informal sector as a percentage of GDP between 2010 and 2014 was 38%, despite that informality is shrinking both in the region and globally [17].

2.3 Institutional forces, economic policies and informal entrepreneurship

The regulatory environment, economic policies and informal institutional forces of norms, conventions, etc., have significant influences on the choice, prevalence and performance of both informal and formal entrepreneurship. An empirical finding reveals that a unit (standard-deviation) increase in the quality of political and economic institutional roles could halve the rates of informal entrepreneurship, but double the rates of formal entrepreneurship [18].

This means that the degree to which the informal sector is impacted by the vagaries of government regulations and policies is much more than that of the formal sector. It is these economic and political-institutional forces that confer advantages of legitimacy to firms in the formal sector which in turns skew the allocation of entrepreneurial efforts and resources towards formality. This is understandable since informal firms and individual actors within the sector operate outside the confines of formal business laws, rules and property rights protection. The caveat is that some of these formal legitimacies carry the implications of disincentives to capital accumulation and investment in the informal sector.

However, informal firms leverage on the social legitimacy confers on them by their stakeholders including government authority. Social legitimacy is governed by norms, values, conventions and beliefs that are prevalent in the environment and make informal firms and individual actors within the environment to be legitimate in dealings with their customers, suppliers and other stakeholders [7, 14].

In most developing nations, the drives and quests for revenue mobilisation have made some relevant government authorities extend the hand of regulation to the informal sector in some spheres of informal trade activities. For instance, in Nigeria, state and local government have mandates of local taxes, operational licences, environmental pollution controls for organised informal markets, which are enforced through umbrella associations and leaders of the market communities.

Regardless of the issue of legitimacy and regulation, what matters most in the institutional framework of the informal sector is the interconnectedness of formal and informal entrepreneurship, and how well or otherwise does the regulatory and policy environment support or impede the progress of informality in terms of opportunity discovery and innovativeness. First, the quality and efficiency of government regulations and policy, determine the choice, size and prevalence of formal or informal entrepreneurship.

Most important are the tax regimes, credit policies and property rights protection. Many undifferentiated government policies and actions between the two sectors in form of taxes, revenue mobilisation, environmental pollution, financial credits, property rights and labour laws are hostile to informal entrepreneurial firms and are gradually used to exiting them from the economy, although informal firms also define structural and political clout of the economy.

Second, the perception of 'all-inclusive' or 'frugal' innovation in the linkage between formal and informal economies, particularly in developing countries has been argued by some scholars that rather than promoting and rewarding informal entrepreneurs for their innovative and collaborative endeavours, the relationship of formal and informal firms tends to suppress and cannibalise the informal sector for the profit motives and institutional gains of the formal sector. Meaning that firms in the formal sector simply take the existing routine innovation in the informal markets and scale it up, thus formalising what is already informal through free riding, by-passing and risk-shifting [12].

Third, the institutional linkage that binds informal and formal entrepreneurship also implies information asymmetry and networking. Informal firms leverage occupational and social networking when seeking an opportunity for innovative ideas, new products, technology advancement, and when regulating the behaviours of the individual actors within the sector [19]. On the other hand, formal firms substantially rely on changes in laws, regulations, policies and a few open-channel information to guide their legitimate economic activities. The resulting information asymmetry and superior social networking on the part of informal firms often create unfair competition for the firms operating in the same market.

Lastly, contentious issues of product counterfeiting and passing-off on the part of informal entrepreneurs tend to further the illegitimacy concerns of the informal sector. However, in some cases, counterfeit products are socially acceptable in the informal market as a result of exorbitant prices on similar products, or simply to fill the gaps in the market [7]. Nonetheless, in the institutional relationship between the two sectors, criminal and illegitimate activities of some of the informal firms should be viewed separately within the linkage and do not make informality illegal in the entire economy.

3. Financing of informal entrepreneurship sector

3.1 Traditional financing of business venture and impacts on informal entrepreneurship

The traditional roles of financial intermediary in nurturing and promoting new business creation and innovation are fast changing in the modern entrepreneurial economy. Consequent to this changing dynamic is that venture capitalist, angel investor, commercial and investment banking are confronted with globalisation and technological disruption. Similar to this situation is the increasing trend of local venture capitalist and entrepreneurship philanthropist as a modern-day angel investor who is financially promoting local business ideas through their foundation platforms. Hence, the need for greater focus on the evolving roles of financial intermediaries and their linkage to the financial and ownership structure of the entrepreneurs, as major determinants for innovation and firm growth [20].

It is, therefore, no gainsaying that emerging entrepreneurs from either formal or informal sector are becoming viable sources for new business and job creation, new product and technology that will lead to productivity growth. However, the major constraint in fostering these economic growth-enhancing activities is the difficulty in accessing appropriate financial resources for innovative endeavours.

The focal area in this paper centres on the sourcing and process of financing informal sector entrepreneurial opportunity and innovation, since the actors in this sector are largely unregulated within the ambit of formal sector financial institutions. Their ownership and financial structure are also non-conforming with the formal contractual obligations and property rights framework. These then pose some questions regarding; (i) the ideal financial outlets to raise funds for innovative products, services and technology, (ii) effectiveness of financial intermediation to support informal firms within the financial industry to raise funds critical to financing a new business, products, and (iii) the conditionalities for accessing funds in terms of financial and ownership structure.

These questions and more, deserve scholastic attention to expand the frontier of informal sector financing [21]. Nevertheless, there has been some coverage of this issue in the literature, albeit not specific to informal entrepreneurship [22, 23].

The process of raising funds by informal entrepreneurs to finance novel ideas, create new business, new product, innovate or renovate technology and process, has not only been complex but also difficult. Stemming from inadequate or lack of internal cash flows and prominently, lack of adequate collaterals, asymmetric information, agency problems, most of the entrepreneurial projects in the informal entrepreneurship sector usually die on arrival.

Notwithstanding, informal entrepreneurs have the privilege of accessing financial resources from traditional channels either internally or externally. Internal traditional sources such as accumulated savings, retained reserves, business assistance or inheritance from families, and loans from friends. On the external traditional sources, bank loans, microfinancing, and cooperative loans are options. In most cases, internalised funding options are unarguably inadequate for funding serious innovation, hence there are needs for alternative sources [24, 25].

3.2 Emerging trend of financial technology (FINTECH) and alternative fund providers

In recent times, new channels and platforms of entrepreneurial financing have emerged. These new avenues are necessitated by the inadequacy of supply side market for funding entrepreneurship, and are expected to mitigate funding barriers and fill the gaps of the dwindling financial intermediation [21].

The shortcomings of informal borrowing and bank lending to the entrepreneurial opportunity and innovation, have culminated in investors turning to angel investor network and venture capital for equity capital contributions. However, due to some limitations leading to adverse selection and credit rationing, new channels of entrepreneurial financing such as crowdfunding, accelerator and incubators, specialised seed funding and government venture funding have emerged in the financial industry [21, 25–27].

Angel investors are rich individuals who take interest to fund innovation projects with their personal wealth and expertise. They usually focus on the start-up and early-stage innovation and remain passive in the entrepreneurship structure. This source of fund is seen as a second call, when bank loans and other traditional financing fail. On the other hand, venture capital is an intermediated source of capital that is raised from set of limited investors for an early-stage or seed phase innovation projects of young entrepreneurs. It is equity finance capital with the objective of earning returns on the investment for the investors. Venture capitalists are active in the in the entrepreneurial innovation to add value, but with temporary ownership structure.

As a result of funding gaps that continue to exist regardless of robust angel investor and venture capital financing, crowdfunding platform has emerged as a big disruptor in the venture financing market. Crowdfunding allows for direct on-line mobilisation of funds for entrepreneurial and innovation projects, particularly the ones at the early-stage, from clusters of small investors (equity crowdfunding) or from group of potential consumers of the project (reward-based crowdfunding). This channel is a disintermediated finance source of small investors with no standard financial intermediaries. What makes crowdfunding successful are strong network of personal investors, underlying quality of the entrepreneurial projects and geography of the entrepreneurship [28].

There are also accelerators and incubators funding channels which focus on gathering network and mentors for the entrepreneurship innovation. These channels are cohort-based funding supports that also provide financing in exchange for equity [25]. Although, the aforementioned financing options are induced by supply-push factors, however, with some shortcomings in the financial industry, government intervention in funding entrepreneurship innovation has become a response to a demand-pull factor of technology transfer [27]. Some countries are coming out to support new business creation, innovation and corporate venturing by direct intervention of venture funding through relevant agencies, while others are supporting the financial industry with tax and other public investment policies to mitigate prevalent bottlenecks between the investors and the entrepreneurs.

Conversely, the challenge is how the informal sector could explore these new alternative sources of funds to support its emerging inventions, innovations, and other entrepreneurial opportunity discovery in the sector. The issue of legitimacy, informal ownership and financial structure do not position informal entrepreneurship appropriately to benefit from venture capitalist. However, crowdfunding and angel investor network can be of immense benefits to the potential entrepreneurs in the informal sector.

4. Review of literature

In the extant literature of entrepreneurial financing, no significant work has yet been done on the peculiarity of informal sector entrepreneurship funding. This apparent gap could be attributed to the afore-mentioned agency problems of information asymmetry and moral hazard, lack of formal financial contract agreement, ambiguous ownership and financial structure, and the issue of legitimacy. It follows that the informal sector entrepreneurship has long been stigmatised with these problems. However, the terrain of financing entrepreneurial opportunity and innovation is not so different for formal and informal entrepreneurs, particularly for new business creation, opaque firms, and young entrepreneurship. Therefore, the streams of funds emanating from the traditional bank loans and trade credits, informal loan from friends and families, coupled with the emergence of alternative sources such as angel investor network, venture capital, crowdfunding, accelerator financing and specialised venture capital, can no longer be overemphasised in the emerging financial markets and technologies [21, 26].

In this regard, scholars are expected to position the phenomenon of entrepreneurial financing in the literature as an important link between entrepreneurial opportunity and economic growth of which the informal sector is paramount. Unfortunately, the literature of finance, strategic management and accounting are yet to fully extend the informality perspective into the theory of finance. Hence, the necessity to integrate into the theory of financing, those gaps associated with the informal entrepreneurship sector in order to bridge the theoretical laxity.

First and foremost, the issue of information asymmetry as a principal-agent problem between two related parties has largely been stressed in some literature [29–32]. However, little has been done to extend this notion of agency theory to the relationship between entrepreneurial firms and potential investors [21], particularly in the area of informal entrepreneurship-investor nexus. This issue which is profound in the informal market suggests that the entrepreneurs are likely to hold or hide vital information from the knowledge of potential investors when seeking for external funds [33]. This attitude is usually as a result of fear that competitors or rivals might take undue advantages of the innovative ideas or products, hence the reluctance of the entrepreneurs to divulge the core information of such innovation to the potential investors [34].

Aside the withholding or divulging of vital information by the entrepreneurs, the other dark side of informational asymmetry that create gaps in the financing of informal entrepreneurial opportunities is the failure to provide good track of business records and the commitment to business acumen and demonstration of credit worthiness. In this situation, the cost of screening or ascertaining credible information on the history of business endeavours in the informal sector which is considered opaque by investors, is usually prohibitive [24]. Moreover, the opacity of the informal firms dictates the financing strategy and tactics that may be employed by the potential investors [25]. This is because some of the new and young firms, particularly the informal ones have no track records, either with suppliers, customers, lending institutions and other stakeholders.

The second agency related issue that contributes to the financing gap of informal entrepreneurship is the moral hazard conflict. In this instance, informal entrepreneurs might misallocate funds raised from investors and utilise same for their benefits rather than for mutual benefits which was the original purpose of financing [23]. In the extant literature, moral hazard is simply referred to as 'shirking' of responsibility by an agent in a principal-agent relationship [32], meaning that the agent has not effectively render his efforts as agreed in the relationship. It has also been argued that moral hazard conflict stems from the fact that investors often lack the ability to fully incentivise the information asymmetries of the entrepreneurs [35]. For instance, dispersed investors like crowdfunding providers or angel investor network might not have the capacity to monitor or coordinate the activities of the investors to identify manifestations of moral hazard. Thus, goal-congruence is lacking between the potential investor and informal entrepreneurs where the entrepreneurs may disregard the interests of the potential investors [21].

Although, assumptions of self-interest, bounded rationality, risk aversion and information asymmetry play key roles as precursors to agency problems in the relationship between the agent and his principal, the fact that the two parties have different and divergent interests often leads to goal incongruency and once this issue manifests, necessary governance mechanisms and incentives need to be put in place to mitigate the problems [36].

The other fundamental issues facing the informal entrepreneurship sector in raising adequate funding is the lack of formalised financial contract agreement and the high probability of enforcement failure. Contractual relationship between the informal entrepreneurs and potential investors are substantially informal and relational, meaning that the variability by the third party such as court or arbitration, is absent, often lacks rigours, ambiguous, and such contract agreement suffers from incompleteness or holding-up which could result in 'arm-twisting' between the entrepreneurs and the investors [20, 37, 38].

Although, many informal firms and individual actors are organised to some extent, as some of them belong to umbrella associations or recognised professions, nonetheless, the financial contract existing in this environment is largely relational and as such, does not guarantee establishing an appropriate financial contract and agreement within the sector. Moreover, the transactional costs and enforcement are prominent issues surrounding informal contracts. It is costly to establish and enforce informal contract agreements because of the failure to provide adequate and convincing evidences of the breach of contract before the courts or arbitration [37].

In most of the literature on entrepreneurial financing and particularly, the financial contracting between investors and entrepreneurs, the issues that stand out are, the finding of equilibrium in the shared risks among the contracting parties, incentives to mitigate incongruency at the early stage of entrepreneurial opportunity and innovation, and enforcement of financial contractual agreement. Therefore, the quest for investors' robustness on financing decisions, either in the anticipation or against the potential information asymmetry, inexperience or moral hazard conflict of the entrepreneurs has become very important element in the financial contract agreement and transactional costs for informal entrepreneurial opportunities [39].

Most importantly is the enforcement of the contractual agreement. The dichotomy between weak and strong enforcement is significant in determining the default rate of entrepreneurial finance made available by investors. Thus, the supply of funds by investors and the ability to repay by the entrepreneurs are determinants to the enforcement resources available to the investors [40].

Similarly, the nature of ownership structure of most informal firms is either family-oriented or sole actors which do not necessarily have formal organisational structure, standardised financial bookkeeping and financial disclosure, robust financial planning and controls. The absence of these structures can lead to 'cognitive bias' in making financing decisions from both the entrepreneurs and the investors [26]. To illustrate, informal entrepreneurs depend much more on cognitive bias to appeal to investors to fund their entrepreneurial opportunities, regardless of their structure, the amount and accuracy of information they disclose.

In fact, the cognitive bias carries different levels of persuasion and risk mitigation towards entrepreneurial financing. In the literature, cognitive bias is conceptualised in the context of 'perception and reasoning' errors that could influence judgement and decision-making to deviate from the normative rationality [41]. Unlike in the formal sector, informal entrepreneurial intents, opportunity discovery and innovation are shrouded in cognitive bias than in organisational structure and standardised financial disclosure.

Equally, it is very important to note that 'mental accounting' bias also play prominent roles on how informal entrepreneurs keep and present their financial records for the purpose of seeking funds from investor or for any other requirements [42]. This follows that the entrepreneurs organise, process, keep, and report their accounting records based on variety of criteria that are mostly subjective.

Finally, the policy and regulatory environment that informal entrepreneurship sector resides and share with the formal sector is also one of the determining factors that constrain easy funding accessibility to informal entrepreneurs and often pose some disincentives for the entrepreneurial firms and the investors to take calculative risks. Although, it is argued that non-conformity with the institutionalised policies and regulations of taxes, financial credit facility, compliance, etc., deprive informal entrepreneurship sector of some of the privileges of legitimacy accorded to the formal sector, however the same environment has helped informal entrepreneurs with the emergence of various financing outlets and technology that are specific to informal debt financing [43].

In the developing economies, microfinancing, cooperative societies, 'esusu' group contributions and lending and on-line loan facility are the new financing opportunities that are reshaping the informal sector entrepreneurship. This attests to the fact that the traditions, rules and conventions that govern the financing of informal entrepreneurship opportunity could be moderated by the formal institutional policy and regulation [44]. Nevertheless, regulative and policy incentives are also part of the environmental variables that can influence the opportunity and innovation of informal entrepreneurship, create a favourable climate for enhancing productive relationship between investors and the entrepreneurs and also create avenues to ease information asymmetry and incongruency of interests in the informal sector [45].

5. Conceptual model and propositions

Having discussed and problematised the phenomena of informality and entrepreneurial financing in the developing economy, this paper further attempts to expand the domains of entrepreneurship and accounting by developing a theoretical model that conceptualises the interconnectedness among informal entrepreneurship, institutional environment that constrain the legitimacy of informal entrepreneurship, entrepreneurial financing together with bottlenecks arising from informality and the potential contributions to the conceptual and theoretical framework of financing (**Figure 1**).

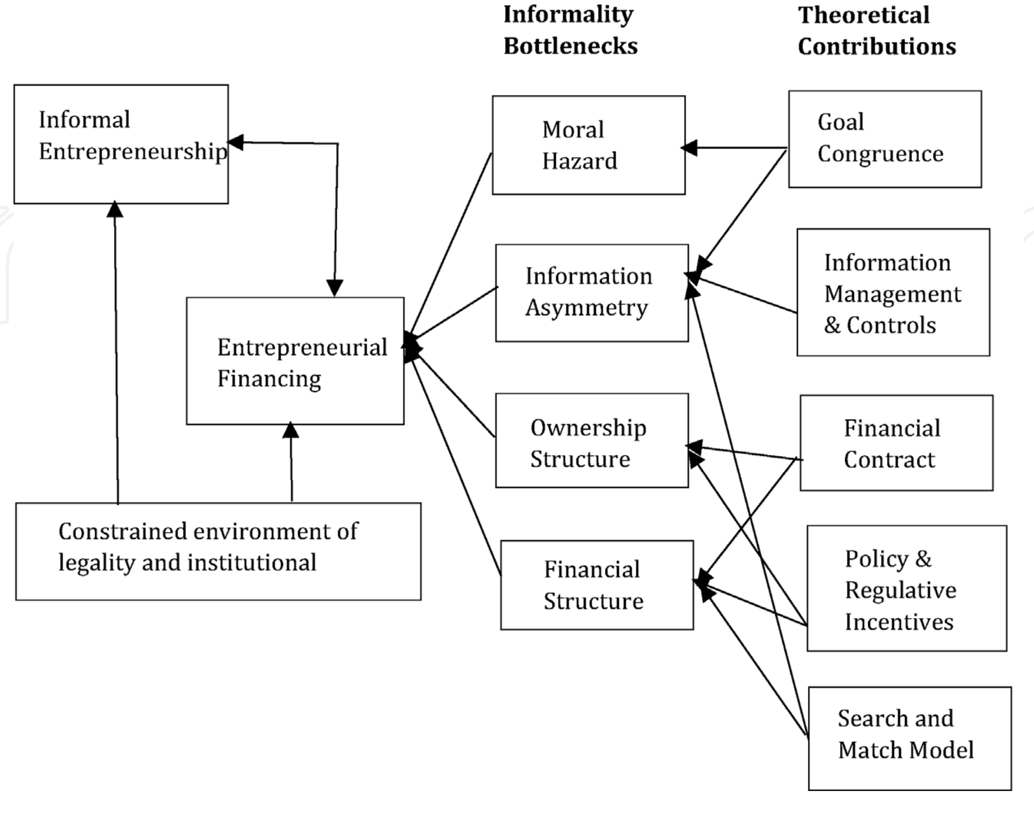

Figure 1.
Conceptual model of informal entrepreneurship financing. Source: Author's adaptation, 2021.

This model has implications for the theoretical underpinning of strategic management, finance and accounting disciplines and exposes agency theory, resource-based theory, transaction cost theory, financial contracting theory and new institutional theory as relevant underlying theories. However, the context of this paper delimits elucidation and amplification of these theories.

The potential theoretical contributions to the literature are limited to the discipline of accounting, and specifically to the management accounting research which is perceived as an applied and quantitative study of strategic management, and belongs to 'method theory' rather than 'domain theory' [27]. In essence, management accounting research is regarded as an interventionist research area that could be explored to demonstrate the practicability of some theoretical postulations of entrepreneurial financing in the informal sector of an economy.

This thought process has two consequences. First, the bridging of entrepreneurship and finance domains in the context of informal entrepreneurial financing. Consequently, the underlying but diverse theories would also be unified into a single and augmented scholastic platform. Second, accounting practitioners, knowledgeable entrepreneurs, and policy makers can leverage on the knowledge enhancement in form of management accounting information and tools to further the practice that will develop the accounting profession and also inform appropriate policies for enhancing informal entrepreneurship in the developing economies.

5.1 Conceptualisation of the model

Informal entrepreneurship is conceptualised into two-fold; the entrepreneurial opportunity and innovativeness emerging from informal sector of the economy. Entrepreneurial opportunity is expressed in terms of recognition and motivation of intents and can be geared towards search or alertness, meaning that potential informal entrepreneur can desire (i.e., to create) or notice (i.e., to discover) opportunity to innovate product, process or service in the informal market. In this context, opportunity can be operationalised in terms of (i) percentage of the unemployed population that recognises start-up of new business, and (ii) percentage informal business activity initiated because of opportunity start-up motive.

Innovativeness refers to innovative ideas and projects that culminate in the newness of product, process, technology amidst competitive brands and varieties in both the formal and informal markets. Innovation can be radical (i.e., completely new) or can be incremental (i.e., renovated). Operationalisation of innovativeness can take the form of (i) number of new products in the market, (ii) number of renovated products in the market, (iii) new technology in the market and (iii) new informal market in the economy.

Both the opportunity discovery and innovativeness exist in the informal environment which is influenced or moderated by institutional policies, regulations and informal rules, conventions and shared values. Although, informality as an environment may be difficult and ambiguous to measure because it is largely seen as a shadow economic unit with the prevalence of numerous informal activities such as small firms trading including street-trading, subsistence farming and agricultural occupation, self-employment, it nevertheless comprises of organised sectors of artisans, technicians, professionals, transporters of goods and persons that are grouped into household businesses and non-wage workers.

It follows that the informal environment has a relationship with the entrepreneurial opportunity and innovativeness respectively. This linkage could therefore establish whether informal firms drive the discovery of entrepreneurial opportunities and innovativeness in the informal markets amidst the disruption in the entire economy.

The interlinkage between the environment and the informal entrepreneurship leads to the emergence on how the new products, technology and process are being financed and brought into the market. Entrepreneurial financing in the context of the informal sector is conceptualised as the process of seeking for and raising appropriate financing for business start-up, renovating new products or technological process and the expansion of capacity that is driven by product and technological innovation. This process runs through informal lending outlets such as borrowing from family, friends, savings, or through financial intermediary such as banks, cooperative societies, microfinance institutions or through the emerging new investment platforms such as crowdfunding, corporate venture, angel investor, accelerators and government specialist financing.

The next phase of the model shows that the paths to seek for fund providers and source appropriate finance for informal entrepreneurial opportunity and innovation are clogged with bottlenecks. Unlike formal entrepreneurial firms, in formal entrepreneurs are faced with informality-specific bottlenecks which are; information asymmetry, moral hazard conflict, ambiguous and unformalized financial contract agreement that is laden with enforcement problems, informal ownership structure and unstandardised financial structure, and mental accounting bias.

In the last phase of the conceptual model, redress propositions in form of contributions to the theory, are made to address the financing bottlenecks in the informal entrepreneurship sector. These contributions are contingent on the frontiers of management accounting research, considering similar theoretical propositions from other disciplines such as finance, economics, strategic management. The contributions to the theory and practice are linked to the relevant bottlenecks that should be addressed in the flow accordingly. For instance, the theoretical expansion envisaged on goal congruence is focused on the agency problems of moral hazard conflict and information asymmetry. Similarly, information management and controls, search and match model are also expected to hinge on the issue of information asymmetry.

The problems of ownership structure would be addressed by the enhancement of management accounting literature in the areas of financial contract agreement and policy and regulative incentives, while the issue of the informal financial structure would be addressed via the expanded theory of the financial contract agreement, search and match model and policy and regulative incentives.

6. Implications for management accounting research

6.1 Contributions to theory and quest for further study

Management accounting is considered a purely applied discipline of strategic management. Hence, it is believed that its relevance and intervention in the issues of entrepreneurial orientation and entrepreneurial financing in the informal sector of the economy is prominent.

In the views of some scholars, management accounting research carries a dichotomy of roles in theory While some scholars are of the view that management accounting being a pure applied field, can only adapt or import theories from other disciplines to use in its research, others believe that the field is distinct, and has its own sets of theories [46]. In my view, these two roles are indistinguishable.

Further, management accounting has often been challenged for not doing enough in providing practical solutions to some theoretical or conceptual issues which are fundamental in expanding the knowledge of the field [6, 28]. Thus, it is important to know how accounting research situates in the realms of knowledge and examine how it intervenes in the research theories of other domains.

In the context of management accounting research, this paper contributes in multiple fold to the literature and theories that underly the phenomenon of entrepreneurial financing by identifying how the bottlenecks of information asymmetry, moral hazard conflict, ownership and financial structure hampering informal entrepreneurship could be bridged.

First, the issue of moral hazard conflict is an agency problem, and could be further theorised using the concept of Goal Congruence. This means that the extant theory of agency should be extended to 'goals model' which emphasises the congruency of goals between two or more contrasting parties. In other word, the theory of agency should be expanded to harness the nexus of informal entrepreneurship and financing. Normally, incentives management are employed in resolving goal congruency issues between agent and his principal, but in the context of entrepreneur and investor relationship, resolution should start with modelling of the interests and goals of informal entrepreneurs and investors, after which the two goals are harnessed to anticipate reduction in monitoring cost, reduce bad investment decisions and mitigate impacts of individual opportunism.

The goal congruency modelling should be able to differentiate ostensible and actual goal congruence, whilst proffering different views of congruency that can harmonise common goals and mutual benefits regarding the funding of entrepreneurial opportunities and innovativeness in the informal sector of the economy. In designing the goal model, cooperative behaviours, consensus and control mechanism should all be embedded in order to derive economic benefits of the goal congruency [47].

Second, the problem of information asymmetry could be theoretically salvaged through accounting information management and control, search and match model, and goal congruence. In the nexus of entrepreneurship and financing, information asymmetry occurs when the relevant oversight by investors who normally finance informal entrepreneurial opportunities and innovation is mostly lacking [48]. For instance, angel investors, crowdfunding investors, traditional fund providers like banks, etc. are mostly passive in the management of the entrepreneurship projects, coupled with lack of standardised information systems in the informal sector.

Likewise, the possibility of informal firms concealing vital information to his advantage which is hidden to the potential investor, or the same behaviour posed by investor [23]. These two issues are common in the informal entrepreneurship and financing nexus and contribute to information asymmetry in the financial industry.

Management accounting research will add value to the theory of organisation when it focuses on the design of 'combined control mechanism' that encompasses both behavioural and information systems management and control [49], and to the theory of contingency, when the contingent nature of accounting and management information in the constantly changing environment of financing is explored and included as an additive package to the combined information system mechanism [50]. Management accounting research needs to adapt the model of contingency to the disruptive environment of financial industry, focusing on the prevalence of funding outlets, platforms and providers which are dynamic, to help informal entrepreneurs and investors share and match relevant information which enable both parties to derive economic benefits of standardised accounting and management information.

Similarly, feedback control should also be embedded in the overall management information mechanism to give prominence to 'cognitive dissonance' in the relationship between informal entrepreneurship and entrepreneurial financing. The feedback control should be designed to guard against either of the party hiding information for selfish tendency and to achieve goal congruence, since there is inherent control weakness in the human interaction system between the informal entrepreneurs who are likely to be dominant in information retention and the potential investors who exploit such information are also passive in the relationship.

Cognitive dissonance implies that a party in the relationship agree with and accommodate information, data and reports that is favourable to his position while discerning the ones at variance with his position. In the process, factual information that is vital to make decisions that could be of mutual benefits to the contractual parties are withheld or grossly be absent. Thus, the antecedents and consequence of cognitive biases in an informal setting of entrepreneurial financing in the twenty-first century, should provide both the informal entrepreneurs and investors with adequate and open information that reflects the symmetry of information that is persuasive of good decision making.

On the other hand, accounting scholars can also theoretically bridge the gap of information asymmetry in the relationship between informal entrepreneur-investor relationship, by leveraging on the extant theoretical work on the search cost model and extend it to the '*search and match*' model in the relationship between informal entrepreneurs and potential investors and with the view of enhancing information symmetry and financial contracting between the two parties. Therefore, management accounting models and tools can effectively be deployed in similarity with the model of search and matching [51].

With the advent of Fintech and a variety of new financing instruments, the cost of searching and accessing investors for promising entrepreneurial opportunity and innovation in the informal sector of the economy are fast becoming a concern for informal firms and individual actors within the sector. It follows that search and match model is a valuation tool used in calibrating and matching of demand and supply forces of labour market [52]. Normatively, search and match tool is designed to exploit wealth of information between two contrasting parties (i.e., employer and employee groups) in response to a change in environmental variable and market friction (i.e., job opening requirements or policy changes). Further, it is an estimating tool designed to provide behavioural responses to the employment issues confronting the labour market [53].

In the context of search and matching model, management accounting research needs to extend the model to bridge the gaps of information asymmetry and financial structure in the relationship of informal entrepreneurship and financing. Quantitative calibration, using empirical data appropriate to the relationship such as background data of informal entrepreneurs and investors, parameters for choice of funds, geographical consideration in terms of financing outlets and providers, cost of search, intermediation cost, cost of fund, forecast data on innovation projects, etc., should be factored in the model calibration.

The third implication centres on the inadequacy of financial contracting in the informal entrepreneurship sector, and its consequential effects on the financial and ownership structures. The underlying theory is the transaction cost and contract. Unlike the formal sectors where contractual agreement, financial and ownership structure are formalised and registered in line with some institutionalised directions, informal firms and individual actors within the informal sector are naturally outside such coverage of legality and formal institutional environment. However, the illegitimacy arising from this externality to informal entrepreneurship could be addressed with two accounting tools.

First, the melding of financial models that aim to put informality around the boundary of formality. In this instance, the financial modelling should encompass financial lending, a structure-oriented funding sources and investor-compliance ownership structure. Second, informal incentive contract model should be explored in quantitative terms to evaluate and analyse the standardised setting of the entrepreneur-investor relationship in the context of informal sector. In this instance, the incentive model should be designed to induce the entrepreneurial opportunity and innovation towards acceptability by potential investors based on predetermined criteria that include unhindered flow of information, remediation, and arbitration process amidst other consideration.

Overall financing contract model should reflect a valid intermediation role and also have the capability to serve as a robust check on the internal logic of decision making and controls for the informal sector entrepreneurship which consequently should assist in standardising bookkeeping, accounting records, budgetary controls and management information system.

6.2 Contributions to accounting practice

One of the implications of this paper is the dematerialisation of the impacts that some regulatory policy has on the informality of entrepreneurship and financing. Management accounting research should expand its frontier to accommodate studies on economic incentives of regulatory policy that is peculiar to informal markets. In this respect, management accounting research should explore the designs and qualitative analysis for tailor-made economic incentive model that brings informal markets closer to the border of formalities and regulatory framework and which can also avail informal entrepreneurs with some of the benefits that formal firms do enjoy, particularly in the areas of taxes, registration and compliance. Such an incentive model should provide governance authority with constructive directions for taking policy decisions, enhance entrepreneurship blueprint and good advocacy for standardised information system for informal entrepreneurship rather than an accounting model.

7. Delimitation

In this paper, the focus is mainly on the domains of observation and their relationships. That means, the domains of entrepreneurship, finance and accounting. The underlying theories of agency, new institutions, financial contract, transaction costs are not explored, but are justified as the basis for theoretical expansion.

In the same way, the proposed focus for expanding the frontiers of entrepreneurial financing is hinged on the management accounting research instead of multiple disciplines such as finance, economics and strategic management. This intentional focus is to explore the interventionist research agenda of management accounting, being the perceived applied strategic management study. It is also to re-awaken accounting practitioners of their vital roles in the knowledge building of entrepreneurship studies, using accounting information controls and tools.

8. Conclusion

Informality in the setting of the entrepreneurial economy in developing countries connotes that, informal firms and individual actors within the informal sector do not add significant values to the economy as much as formal firms add, irrespective of the fact that the informal sector employs large numbers of workers and also harness much bigger resources in the value chain of the economy.

Notwithstanding, entrepreneurship opportunity and innovativeness dimensions of entrepreneurial orientation have relevance in the informal sector entrepreneurship, but with the constraints of sourcing and accessing adequate financial resources to fund innovative products, services and new localised technology in the informal markets.

The apparent emergence of financial technology platforms (FINTECH) and new sources of funding, such as crowdfunding, accelerators and incubators are alternative complements to the traditional and informal financing outlets of bank loans, family and friends, as well as angel investor network, venture capital and government venture fund. The new alternative sources are also filling the gaps for considering small firms and start-ups financing, albeit with no visible informal projects in the envelopes. Nevertheless, the on-line provision of capital funds for entrepreneurship has been enormous.

In the informal sector, an opportunity to take advantage of such new sources to close funding gaps are usually marred by the lack of collaterals, poor accounting records, illegitimacy concerns of no formal registration, tax avoidance, no formal contracting and non-coverage of institutionalised policies. These concerns also extend to the issues of information asymmetry, moral hazard, financial and ownership structure.

In an attempt to reposition the understanding of informality in the context of entrepreneurship and financing, and to expand the frontiers of strategic management and accounting literature, this paper suggests that management accounting research could play vital roles in further exploring the problematised issues of entrepreneurial informality and financing by bridging the domains of accounting, finance and entrepreneurship. In this arena, five areas for theoretical contributions were highlighted as, goal congruence, accounting and management information controls, financing contract modelling, regulative policy incentives and search and matching model.

Theoretical model that conceptualises interrelationship among different variables with their underlying theories was proposed. The model demonstrates that informal entrepreneurship has opportunity discovery and innovativeness as antecedents of entrepreneurial orientation. The informal entrepreneurs operate in an institutionalised environment where regulation, policies, culture, traditions and shared values play prominent roles. In this institutionalised environment, it is contingent for the informal entrepreneurs to seek for funds to finance their innovative products, process or technology. There are diverse sources and platforms in the financial industry for the choice either direct or through financial intermediation. However, there many bottlenecks confronting informal entrepreneurship innovation in accessing appropriate and adequate funding.

In this paper, management accounting research is focused to explore various management information systems, models and tools to bridge the theoretical gaps, while also focuses on economic incentives for regulative policy to address gap in policy making concerning informal entrepreneurship sector. The justification for the choice of management accounting research is to position the literature to contribute and expand the frontiers of agency theory, contingency theory, organisational theory, transaction cost theory, financial contracting theory and the model of search and match, all of which underly the highlighted bottlenecks of the informal sector financing.

The other cogent reason is that, management accounting is positioned in between the paradigms of positivism and interpretivism, however, the focus is more on the ontology, epistemology and methodology of interpretivist paradigm, simply because of the social science nature of the discipline rather than considering it as a pure natural science which confers positivist paradigm [54]. While positivism is a scientific paradigm and focus on a realistic natural phenomenon that is independent of the researcher, the interpretivist paradigm is subjective, it focuses on relativism where meanings to objects are discovered and constructed through interaction between researcher conscience and the real world [55].

The knowledge realm of management accounting research is also informed by inductive reasoning for analysing and evaluating qualitative data that will produce reliability and validity of findings [56]. It therefore follows that the perspectives of management accounting research are dynamic and has metamorphosed from just number analysis to qualitative and quantitative decision making and human interaction facilitator [57]. There are instances where management accounting has influenced entrepreneurship studies adopting inductive and qualitative approach such as case studies, interviews, focus groups, etc. Moreover, management accounting has also been found as an important resource and capability for international entrepreneurship and assumes effectuation and causality logic [58]. In these instances, this paper suggests that the theoretical contributions highlighted can be taken through qualitative or quantitative methodology as each case may warrant.

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References

[1] Chowdhury F, Terjesen S, Audretsch D: Varieties of entrepreneurship: institutional drivers across entrepreneurial activity and country. 2014; DOI: 10.1007/s10657-011-9464-x

[2] Van Vuuren J, Alemayehu B. Z: The role of entrepreneurship in transforming efficiency economies to innovation-based economies. 2018; 10(1) :1-12. DOI: 10.4102/sajebm.v10i1.40

[3] Edoho F. M: Entrepreneurship and socioeconomic development: Catalyzing African transformation in the 21st century. 2015; 6(2) :127-147. https//doi.org/10.1108/AJEMS-03-2013-0030.

[4] La Porta R, Shleifer: Informality and Development. The Journal of Economic Perspectives. 2014 ;28(3) :109-126.

[5] Zoogah D. B, Peng M. W, Woldu H: Institutions, Resources and Organizational Effectiveness in Africa. 2015;29(1):7-31. http//dx.doi.org/10.5465/amp.2012.0033

[6] Jansen E. P: Bridging the gap between theory and practice in management accounting: Reviewing the literature to shape interventions. 2018; 31(5) :1486-1509. DOI: 10.1108/AAAJ-10-2015-2261.

[7] Webb J. W, Ireland R. D, Ketchen D. J: Toward a Greater Understanding of Entrepreneurship and strategy in the Informal Economy. 2014 ;8 :1-15. DOI: 10.1002/sej.1176.

[8] Chen M. A: The Informal Economy: Definitions, Theories and Policies. 2012.

[9] Meagher K: The Scramble for Africans: demography, globalization and Africa's informal labour market. 2016 ;52(4) :483-497. DOI: 10.1080/00220388.2015.1126253.

[10] Eckhardt J. T, Shane S. A: Opportunities and entrepreneurship. 2003;29(3):333-349. DOI: 10.1177/014920630302900304.

[11] Lechner C, Gudmundsson S. V: Entrepreneurial orientation, firm strategy and small firm performance. 2014 ;32(1) :36-60. DOI: 10.1177/0266242612455034.

[12] Meagher K: Cannibalizing the Informal Economy: Frugal Innovation and Economic Inclusion in Africa. 2018; 30 :17-33. https//doi.org/10.1057/s41287-017-0113-4

[13] Sparks D. L, Barnett S. T: The Informal Sector in Sub-Saharan Africa: Out of the Shadows to Foster Sustainable Employment and Equity? 2010 ;9(5):1-11.

[14] Krasniqi B. A, Williams C. C: Does informality help entrepreneurs achieve firm growth? Evidence from a post-conflict economy. 2020 ;33(1) :1581-1599. DOI: 10.1080/1331677x.2020.1756369.

[15] Anyigba H, Bugbilla D, Omotosho S, Asiedu M, Gomado D: Economic Globalisation, Informality and Informal Employment: The African Perspective. 2020 https//ssrn.com/abstract=3638708.

[16] Pham T. H. H: Impacts of globalisation on the informal sector: Empirical evidence from developing countries. 2017; http://dx.doi.org/10.1016/j.econmod.2017.01.001

[17] IMF: Regional economic Outlook: Sub-Saharan Africa, Restarting the growth engine. 2017.

[18] Autio E, Fu K: Economic and political institutions and entry into formal and informal entrepreneurship. 2015 ;32: 67-94. DOI: 10.1007/s10490-014-9381-0.

[19] Ketchen D. J, Ireland R. D, Webb J. W: Toward a Research Agenda for the Informal Economy: A Survey of the Strategic Entrepreneurship Journal's Editorial Board. 2014 ;8 :95-100. DOI: 10.1002/sej.1175.

[20] Chemmanur T. J, Fulghieri P: Entrepreneurial Finance and Innovation: An Introduction and Agenda for Future Research. 2013; DOI: 10.1093/rfs/hht063.

[21] Bellavitis. C, Filatotchev I, Karimuwo D. S, Vanacker T: Entrepreneurial Finance: new frontiers of research and practice. 2017 ;19(1-2): 1-16. DOI: 10.1080/13691066.2016.1259733

[22] Block J. H, Colombo M. G, Cumming D. J, Vismara S: New players in entrepreneurial finance and why they are there. 2018 ;50 :239-250. DOI: 10.1007/s11187-016-9826-6.

[23] Cumming D, Groh A. P: Entrepreneurial finance: Unifying themes and future directions. 2018 ;50 :538-555. https://doi.org/10.1016/j.jcorpfin2018.01.011.

[24] Fraser S, Bhaumik S. K, Wright M: What do we know about entrepreneurial finance and its relationship with growth. 2015 ;33(1) :70-88. DOI: 10.1177/0266242614547827.

[25] Mitter C, Kraus G: Entrepreneurial finance- issues and evidence revisited. 2011 ;14(2/3) :133-150.

[26] Drover W, Busenitz L, Matsuki S, Townsend D, Anglin A, Dushnitsky G: A Review and Roadmap of Equity Financing Research: Venture Capital, Corporate Venture Capital, Angel Investor, Crowdfunding and Accelerators. 2017; 20(10): 1-34. DOI: 10.1177/0149206317690584.

[27] Colombo M. G, Cumming D. J, Vismara S: Governmental venture capital for innovative young firms. 2014; DOI: 10.1007/s10961-014-9380-9.

[28] Mollick E: The Dynamics of Crowdfunding: An Exploratory Study. 2014; 29: 1-16. DOI: 10.1016/jbusvent2013.06.005.

[29] Alvi F. H, Carsrud A. L: Strategic Entrepreneurial Agency in Emerging Market. 2017; 26(1): 77-101. DOI: 10.1177/0971355716677394.

[30] Jerzemowska M: The Main Agency Problems and Their Consequences. 2006; 14(3): 9-17.

[31] Bitler M. P, Moskowitz T. J, Vissing-Jorgen A: Testing agency Theory with Entrepreneur Effort and Wealth. 2005; 60(2): 539-576.

[32] Eisenhardt K. M: Agency Theory: An assessment and Review. 1989; 14(1): 57-74.

[33] Cosh A, Cumming D, Hughes A: Outside Entrepreneurial Capital. 2009; 119: 1494-1533. DOI: 10.1111/j.1468-0297.2009.0227. x.

[34] Giordani P. E: Entrepreneurial Finance and Economic Growth. 2015; 115: 153-174. DOI: 10.1017/s00712-014-0411-7

[35] Momtaz P. P: Entrepreneurial Finance and Moral Hazard: Evidence from Token offerings. 2020; DOI: 10.1016/j.jbusvent.2020.106001.

[36] Bendickson J, Muldoon J, Liguori E, Davis P. E: Agency Theory: the times, they are changin'. 2009; 54(1): 174-193. DOI: 10.1108/MD-02-2015-0058.

[37] Gil R, Zanarone G: Formal and Informal Contracting: Theory and Evidence. 2017; 13: 141-159. DOI: 10.1146/annurev/lawsocsci-110316-113413.

[38] Gil R, Zanarone G: On the determinants and consequence of informal contracting. 2018; 1-16. DOI: 10.1111/jems.12246.

[39] Ling A, Miao J, Wang N: Robust financial Contracting and Investment. 2021; Working paper 28367. http://www.nber.org/papers/w28367.

[40] Drodz L. A, Serrano-Padial R: Financial contracting with enforcement externality. 2018; 178: 153-189. DOI: 10.1016/j.jet.2018.09.002

[41] Adomza G. K, Astebro T, Yong K: Decision biases and entrepreneurial finance. 2016; DOI: 10.1007/s11187-016-9739-4.

[42] Virigineni M, Rao M. B: Contemporary Developments in Behavioral Finance in. 2017; 7(1): 448-459. http://www.econjournals.com

[43] Wu J, Si S, Wu X : Entrepreneurial Finance and Innovation : Informal Debt As an Empirical Case. 2016 ; 10 : 257-273. DOI: 10.1102/sej

[44] Lee C, Hung S: Institutional Entrepreneurship in the Informal Economy: China's Shan-Zhai Mobile Phones. 2014; DOI: 10.1002/sej.1174

[45] Greenwood M. J, Baylis R. M, Tao L: Regulatory incentives and financial reporting quality in public health care organisations. 2017; DOI: 10.1080/00014788.2017.1343116

[46] Lukka K, Vinnari E: Domain theory and method theory in management accounting research. 2014 ;27(8): 1308-1338. https//doi.org/10.1108/AAAJ-03-2013-1265.

[47] Buillon M. L, Ferrier G.D, Stuebs M. T, West T. D: The economic benefit of goal congruence and implications for management control systems. 2006; 25: 265-298. DOI: 10.1016/j.jaccpubol.2006.03.003

[48] de Bettignies J-E: Financing the Entrepreneurial Venture. 2008 ;54(1): 151-166. http://dx.doi.org/10.1287/mnsc.1070.0759.

[49] Malmi T, Brown D. A: Management control systems as a package-Opportunities, challenges and research directions. 2008; 19:287-300. DOI: 10.1016/j.mar.200809.003

[50] Otley D: The contingency of management accounting and control:1980-2014. 2016; 31:45-62. DOI: 10.1016/j.mar.2016.02.001

[51] Di Porto E, Elia L, Tealdi C: Informal work in a flexible labour market. 2017 ;69(1) :143-164. DOI: 10.1093/oep/gpw010.

[52] Lise J, Seitz S, Smith J: Evaluating search and matching models using experimental data. 2015; 4(16):2-35. DOI: 10.1186/s40172-015-0031-7

[53] Lubik T. A: Estimating a Search and Matching Model of the Aggregate Labour market. 2009 ;95(2):101-120.

[54] Lukka K: Exploring the possibilities for causal explanation in interpretive research. 2014 ;39 :559-566. http://dx.doi.org/10.1016/j.aos.2014.06.002.

[55] Scotland J: Exploring the Philosophical Underpinnings of Research: Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms. 2012; 5(9):9-150 DOI: 10.5539/elt.v5n9p9.

[56] Thomas D. R: A General inductive approach for Analyzing Qualitative Evaluation Data. 2006 ;27(2) :237-246. DOI: 10.1177/1098214005283748.

[57] Shields M. D: A Perspective on Management accounting Research. 2018; 30(3): 1-11. DOI: 10.2308/j.mar-10618

[58] Mitter C, Hiebl M. R. W: The role of management accounting on international entrepreneurship. 2017; 13(3) :381-409. https//doi.org/10.1108/JAOC-02-2016-0006.

Chapter

Impact of Working Capital Management on Profitability: A Case Study of Trading Companies

Rafathunnisa Syeda

Abstract

The success of any business depends on its profitability, liquidity, and solvency. Liquidity plays an important role in the successful running of a business. Many prior studies have been conducted to measure the relationship between working capital and profitability. The results showed that the high investment in inventories and receivables is associated with lower financial performance. They found a negative relationship between Return on Assets and Inventory turnover and Cash conversion cycle the present study is designed to know the direct impact of working capital on profitability by choosing the days of collection, days of payment, days inventory converts to sales and finally the cash conversion cycle. This study examines the association between the profitability and working capital using the data of 15 US trading companies for the period of 2015 to 2019. The key points in this study are firstly there exists a negative relationship between the profitability and the average collection period, the lower the average collection period higher will be the profitability, indicating that a decrease in the number of days a firm receives payment from sales affects the profitability of the firm positively. Secondly there is a highly significant positive relationship between average payment period and profitability. This implies that the longer a firm makes the payment to its creditors, the more profitable it is. Thirdly the cash conversion cycle decreases it will lead to an increase in profitability of the firm, and managers can create a positive value for the shareholders which indicates that it has been maintained. The regression analysis showed the value for the R-squared in the model is 0.584, i.e., 58.4% of the variation in the dependent variable Net Profitability is explained by the independent variables.

Keywords: net profitability, trading companies, working capital management, average collection period, average payment period, inventory turnover days, cash conversion cycle

1. Introduction

An attempt has been made in this empirical study to know the impact of working capital management on profitability, both the factors are important concerns of management. If working capital is not managed perfectly it will reduce the liquidity of the company and ultimately effects profitability.

The working capital should be maintained at a desired level depending upon the size of the firm, excessive working capital leads to the unnecessary accumulation of inventories causing losses and wastages. The large debtors indicate the defective credit policy which might lead to bad debts. On the other hand, with the inadequate working capital, the firm will not be in a position to pay short-term liabilities. The firm may not be able to pay its day-to-day expenses which creates inefficiencies and reduces profits.

The success of any business depends on its profitability, liquidity, and solvency. Liquidity plays an important role in the successful running of a business. The crucial functions of financial managers to ensure the liquidity of a firm, that it must be in a position to meet its short-term obligation without which it cannot survive. The working capital which consists of current assets and current liabilities which measure the liquidity has been chosen as the main independent variable to study its relationship with the profitability. The collection period, payment period, inventory days and cash conversion cycle has been used as a measure of working capital.

Many prior studies have been conducted to measure the relationship between working capital and profitability as examined by Azhar [1]. The impact of liquidity and management efficiency on the profitability of select power sectors using different ratios as independent variables, where debtor turnover ratio, collection efficiency, and interest coverage showed a significant impact. Rathiranee and Sangeetha [2] examine the impact of working capital on financial performance in select trading firms where the regression analysis results showed that the high investment in inventories and receivables is associated with lower financial performance i.e., Return on Assets (ROA). They found a negative relationship between Return on Assets and Inventory turnover and Cash conversion cycle for the trading firms listed in Colombo Stock Exchange. Mansoori and Muhammad [3] have studied the same picture with the evidence from Singapore found that Management performance would be improved by managing working capital efficiently. Their results demonstrate that firm's profitability is increased by decreasing in receivable conversion period and inventory conversion period. Saradhadevi found in her study that there exists a highly significant negative relationship between the profitability and cash conversion cycle and a highly significant positive relationship between the time it takes the firm to pay its (Average payment period) which implies the longer a firm takes to pay its creditors the more profitable it is.

Keeping in view the above scenario the present study is designed to know the direct impact of working capital on profitability by choosing the days of collection, days of payment, days inventory converts to sales and finally the cash conversion cycle.

Many studies have been conducted for manufacturing companies, cement and textile companies, oil and gas companies only a few have been focused on trading companies. Hence the present study has its focus on working capital management and its impact on profitability in relation to trading sector.

2. Review of literature

1. Working capital management and profitability [4]: This study aims to find out the impact of working capital management on profitability. Return on assets, Current ratio, debt to equity ratio, operating profit to debt ratio, and inventory turnover ratios of the firms are the variables that are used in this study carried out for electrical equipment firms listed on Karachi stock exchange for a period of six years i.e. 2007–2012. Regression analysis was applied to the data. Normality and linearity test was also applied. Results showed significant positive

results. T-test is applied to see for individual variable significance, it tells that each variable is significant. It is concluded that working capital management has positive significant impact on profitability of the firms.

2. The relationship between working capital management and profitability [5]: A sample of 67 companies is used for a period of ten years (2007–2016). Quantitative method using multiple linear regression and pooled data set is used for analysis. The study investigates the relationship between working capital management and profitability in non-financial companies listed in the Saudi Stock Exchange. The results indicate a positive relationship between working capital management and profitability. The results indicate a weak linear relationship between WCM and profitability, indicating that no single constant practice or strategy would suit every company, managers should identify the optimal level of working capital that suits their company's situation. The results showed a statistically positive relationship between WCM, measured by CR, RCP, APP, INP, and profitability; however, there was a weak linear relationship.

3. Working capital management and firms' profitability: Dynamic panel data analysis of manufactured firms [6]: This paper examines the impact of working capital management on firm's profitability performance of manufacturing firms by using not only static models such as ordinary least square (OLS), fixed and random effects but also dynamic models difference generalized method of moments (GMM) and system generalized method of moments (SGMM) over the period from 2007 to 2018. The results show that inventory conversion period (ICP) and payable deferral period (PDP) have a positive relationship with return on asset while the cash conversion cycle (CCC) has a negative effect on return on assets.

4. Working capital management and profitability: Empirical evidence [7]: Empirical findings suggest that granting longer extensions to customers does not affect profitability. The results of the other variables showed a negative relationship with the profitability of the companies, suggesting that the investment in inventories and the obtaining of extensions from suppliers determine additional costs that negatively impact profitability. This paper examines the working capital management policies in 105 manufacturing companies in the Czech Republic for five years, from 2014 to 2018.

5. The relationship between working capital management and profitability: A case study of cement industry in Pakistan [8]: Ikram ul Haqq, Muhammad Sohail, Khalid Zaman and Zaheer Alam examines the effect of working capital on profitability for the period of six years from 2004 to 2009 by using the data of fourteen companies in the cement industry. The ratios relating to capital management have been selected and computed for the study. The main objective of the study was to find whether financial ratios affect the performance of the firm in the special context of cement industry in Pakistan. They found that the ROI is negatively correlated with the current assets to sales ratios and cash turnover ratio while ROI is positively correlated with the current ratio, liquid ratio current assets to total assets ratio, debtors turnover ratio, inventory turnover ratio, and credit turnover ratio.

6. Relationship between inventory management and profitability: An empirical analysis of Indian cement companies [9]: Dr. Ashok Kumar Panigrahi has discussed the importance of inventory management practices of Indian Cement Companies and their impact on working capital efficiency over a period of ten

years from 2001 to 2010. The study uses Regression analysis. The findings indicate that there exists a significant negative linear relationship between inventory conversion period and profitability. It was also found that when profitability increases with the decrease in the financial debt ratio. Further, it showed a positive relationship between profitability and firm size, as the profitability increases with an increase in firm size. Lastly, the relationship between the current ratio and profitability was negative.

7. Effects of working capital management on profitability: The case for selected companies in Istanbul stock exchange (2005–2008) [10]: The study was carried out by Hasan Ajan Karaduman, Halil Emre Akbas, Arzu Ozsozgun, and Salih Durer with the aim to provide some empirical evidence on the effects of working capital management on profitability for a sample of 140 selected companies listed in the Istanbul Stock Exchange (ISE) for the period of 2005–2008. The return on assets of the sample companies increases with a decrease in the number of days accounts receivable, accounts payable, and a number of days of inventory. Also, the reduction in the cash conversion cycle results in higher returns on assets. Furthermore, the results of control variables like the size have a positive effect on profitability while the debt ratio negatively affects the profitability.

8. Working capital management in indian oil and gas industry—A case study of Reliance Industries Ltd. [11]: Sankar Thappa has used liquidity ratios to assess the significance of working capital for a period of ten years 2004–2013.The analysis of liquidity ratios, liquidity position, item-wise analysis of components of gross working capital and liquidity ranking have been done. The results showed that the coefficient of correlation between the profitability ratio compared to the current ratio, working capital turnover ratio, and inventory turnover ratio indicates the low degree of positive correlation whereas the coefficient of correlation between profitability ratio compared to the quick ratio (liquid ratio) and absolute liquid ratio indicates that there is a low degree of negative correlation. The overall working capital position is not very much satisfactory.

9. Relationship between working capital management and firm profitability manufacturing sector of Pakistan [12]: Muhammad Safdar Sial and Aqsa Chaudry measure the relationship between working capital management and firm profitability in the manufacturing sector with a sample of 100 firms covering a period of ten years from 1999 to 2008. The coefficient of size was positive which means that the bigger the size have more profitability as compared to firms of smaller size. The debt ratio has been used for leverage which showed a significant negative relationship with Return on Asset which means increase in leverage adversely affect on return on assets. The results show that there is a strong negative relationship between variables of working capital management and profitability of the firm which means as the cash conversion cycle increases it will lead to a decrease in profitability of the firm.

10. Effect of working capital management on profitability by Asif Iqbala and Zhuquan Wang [13]: They found a diverging effect of working capital management on the profitability of manufacturing firms of Pakistan. They suggest that "paying full attention to the cash conversion cycle" has enormous effect on working capital. Minimizing the inventory level frees the capital for other use.

11. Relationship between working capital management and profitability by Puteri Shahirah Binti Ghazal [14]: This paper is an evidence from the UAE market

focusing on real estates and construction companies from the Abu Dhabi market. The finding of this study presented that there is a negative relationship between cash conversion cycle and profitability; longer the CCC, the profitability decreases. Another finding showed that the amount of payable days is negatively related to profitability.

12. The effect of working capital management on profitability [15]: A sample of three (3) manufacturing companies listed on the Dar es Salaam Stock Exchange (DSE) is used for a period of ten years (2002–2012). They found negative relationship between liquidity and profitability showing that as liquidity decreases, the profitability increases, average collection period and profitability indicating that a decrease in the number of days a firm receives payment from sales affects the profitability of the firm positively.

13. To analyze relationship between working capital management and profitability [16]: This paper basically analysis the relationship between working capital and profitability of the Indian IT Company (TCS). This Study shows negative relationship of inventory turnover ratio with ROA excluding and including Revaluation which shows that with the inventory turnover the firm should increase its return on assets. And also study shows negative relationship of debtor turnover ratio with Return on Capital Employed.

3. Research question

The main objective of any business is to earn profit and manage the funds efficiently and effectively which has direct impact on profits. So, working capital is the major constituent to measure liquidity. This study examines the association between the profitability and working capital using the data of 15 US trading companies for the period of 2015 to 2019.

4. Hypotheses development

Working capital is an important issue during financial decision making. The crucial part in managing working capital is required to maintain its liquidity in day-to-day operation for the smooth running of business and meeting its obligations in time. Thus, working capital is selected as one of the independent variables to know that how it effects profitability.

H1: There is a significant relationship between Working Capital Management and profitability.

H2: Working capital management has strong impact on profitability.

Keeping in view the above studies the following objectives have been outlined for the present study.

5. Objectives of the study

1. To study the relationship between profitability and working capital management.

2. To examine the impact of average collection period, average payment period, inventory turnover days and cash conversion cycle on profitability.

Variables	Type	Measured	Abbreviations used
Net income	Dependent variable	Net Income/Net sales*100	NI
Average collection period	Independent variable	Account receivable/net sales*365	ACP
Average payment period	Independent variable	Account payable/Cost of goods sold*365	APP
Inventory turnover days	Independent variable	Inventory/Cost of goods sold* 365	ITD
Cash conversion cycle	Independent variable	ACP+ITD-APP	CCC

Table 1.
Showing the key research variables.

6. Methods

The choice of the variables for the present study is influenced by the previous studies on working capital management. They include dependent, independent and some control variables. The profitability in terms of Return on assets, Gross profit ratio, Operating profit and Net income are taken as dependent variable in previous studies.

The dependent variable is the one which is affected during the experiment, for the present study profitability is taken as dependent variable i.e., in terms of Net Income. The independent variable is the one which effects the dependent variable. Average collection period, cash conversion cycle, average payment period, inventory turnover ratio, current ratio, liquid ratio, etc. were taken as independent variables in previous studies. For this study the independent variables are the average collection period, average payment period, inventory turnover days and cash conversion cycle. The study aims at to find out the association between the variables through different statistical analysis (**Table 1**).

The following equation is used to estimate the impact of working capital on profitability.

$$NI\left(it\right) = \hat{a}0 + \hat{a}1\left(ACP\ it\right) + \hat{a}2\left(APP\ it\right) + \hat{a}3\left(ITD\ it\right) + \hat{a}4\left(CCC\ it\right)$$

NI (it) = profitability of the firms at time 5 years, i = 15 firms.
$\beta 0$ = the intercept of an equation.
β = coefficients of independent variables.
T = time 5 years 2015–2019.
Average collection period ACP.
Average payment period APP.
Inventory turnover days ITD.
Cash conversion cycle CCC.

In the above general equation, the Profitability is the dependent variable, and it is influenced by the independent variables i.e., ACP, APP, ITD and CCC.

7. Sample and data collection

The main source of data is the S&P Capital IQ website. Many studies have been conducted to examine the relationship between the financial performance and working capital management. These studies have been done relating to the cement companies, trading companies, manufacturing companies, pharmaceutical companies and only a few have been carried out about trading companies. So for the present study sample is taken from trading companies.

The present study aims at to provide some empirical evidence of impact of working capital management on profitability for a sample of 15 trading companies for the period of five years from 2015 to 2019. These companies are randomly selected from all listed companies in the New York Stock Exchange (NYSE). The sample companies includes: 1) Applied Industrial Technologies Inc. (AIT), 2) DXP Enterprises Inc., 3) Eco Shift Power Corp. (ECOP), 4) EVI Industries Corp., 5) General Finance Corp. (GFN), 6) Gypsum Management and Supply Corp. (GMS), 7) W.W. Grainger (GWW), 8) H&E Equipment Inc. (HEES), 9) HD Supply Inc. (HDS) 10) Houston Wire and Cable Company (HWCC), 11) Huttig Building Products Inc. (HBP) 12) Kaman Corporation (KAMN), 13) MRC Global Inc., 14) MSC Industrial Direct Co. Inc. (MSM), 15) ProShares Ultra Health Care (RXL).

The Net Profitability is taken as the dependent variable and the average collection period (ACP), average payment period (APP), inventory days converted to sales (ITD) ad cash conversion cycle (CCC) are considered as independent variables.

8. Results

The analysis of data is done using descriptive statistics, correlation matrix and regression analysis.

The following observations are made from the above **Table 2** compiled with five years data for 15 trading companies:

1. The Net profitability for these companies ranges from −7.308 to 31.895 with a mean of 3.637 and standard deviation 5.85 which shows high variance.

2. ACP ranges between 18.57 and 133.28 days with an average of 51 days and standard deviation of 16.88 signifying very high variability across the companies.

3. The APP ranges between 9.6 and 79.69 with an average of 36.76 and standard deviation of 14.62. The minimum time taken to make the payment is 9 days which is unusual.

4. The ITD ranges between 30.62 and 139.53 with an average of 71.24 and standard deviation of 26.05. The maximum time taken to convert inventory into sales is 139 days which is a very large time period to convert inventory into sales.

5. The CCC ranges between 18.02 and 193.18 with an average of 85.85 and standard deviation of 36.63. The maximum time taken for cash conversion cycle is 193 days which is a large time taken to convert cash.

Variable	Mean	Standard deviation	Minimum	Maximum
Net profitability	3.637	5.859	−7.308	31.895
ACP	51.38	16.886	18.576	133.28
APP	36.766	14.617	9.61	79.698
ITD	71.24	26.05	30.62	139.53
CCC	85.85	36.63	18.024	193.18

Table 2.
Descriptive statistics of 15 companies for the years from 2014 to 2019.

9. Correlation analysis

Correlation analysis is used to measure the degree of association between different variables under consideration. Correlation matrix of all variables included in the analysis is presented in **Table 3** which is calculated based on data of 15 trading companies for a period of five years 2015 and 2019.

An attempt has been made to find the relationship between profitability and WC, for this purpose Pearson's coefficient of correlation analysis is done. As indicated in the above studies there exist a negative correlation between the profitability and the collection period, the lower the average collection period higher will be the profitability. The correlation between average payment period and profitability is 0.127 which shows a positive relationship if there is an increase in payment period it leads to an increase in profitability. There exist a negative correlation between profitability and the cash conversion cycle is −0.271 which indicates an increase in collection period leads to increase in CCC and vice versa and ultimately effects profitability The correlation between inventory conversion days and profitability is positive which is beyond expectation. There exists a negative correlation between cash conversion cycle and average payment period.

It is recommended that the companies should avoid an increasing cash conversion cycle because it means that the business is becoming more operating inefficient, locking more and more cash into its processes. They should maintain a lowest cash conversion cycle compared to their peers, or at least a decreasing one. A decreasing CCC represents a more efficient company that converts its inventories faster as well as gets paid faster and probably is paying its suppliers later thus, holding cash for more time (**Table 4**).

	NP	ACP	APP	ITD	CCC
NP	1				
ACP	−0.353391495	1			
APP	0.127879206	0.25544055	1		
ITD	0.225071917	0.20822956	−0.140703	1	
CCC	−0.271955653	0.50715839	−0.381359	0.8633495	1

Table 3.
Correlation matrix of 15 companies for the year 2015 and 2019.

Regression statistics	
Multiple R	**0.782**
R square	0.584
Adjusted R square	0.425
Standard error	0.515
Observations	75

Table 4.
Regression results of 15 companies for the year 2015 to 2019.

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10. Regression analysis

The regression analysis showed the value for the R-squared in the model is 0.584, i.e., 58.4% of the variation in the dependent variable (NI) is explained by the independent variables working capital of the model, which is represented by CCC, APP, ACP, and ITD and 42% is affected by other factors.

11. Summary and conclusions

The study is carried out for a sample of 15 trading companies for the period of five years from 2015 to 2019. These companies are randomly selected from all listed companies in the New York Stock Exchange (NYSE).

This study examined the relationship between Net Profitability and several variables of working capital management such as average collection period, average inventory turnover in days, average payment period and cash conversion cycle. The results showed that there exist a negative relationship between the profitability and the average collection period, the lower the average collection period higher will be the profitability. The correlation between average payment period and profitability is 0.127 which shows a positive relationship if there is an increase in payment period it leads to an increase in profitability. It is found that the cash conversion cycle decreases it will lead to an increase in profitability of the firm, and managers can create a positive value for the shareholders which indicates that it has been maintained.

The results of this study show that there is a strong relationship between the working capital and profitability of the firms. It means if the financial managers keep an eye on the liquidity it will lead to profitability. So, it is recommended that Companies should always maintain a sound collection policy and it is further suggested that managers can create value for their shareholders by reducing the number of days accounts receivable, increasing the number of days accounts payable and inventories to a reasonable minimum.

The hypotheses is accepted for working capital management that it has strong impact on profitability. There is a significance relationship between Working Capital Management and profitability. The study has examined the impact in terms of average collection period, average payment period, inventory turnover days and cash conversion cycle on profitability.

Furthermore, On the basis of the above analysis the results can be further strengthened if the firms manage their working capital in more efficient ways. Management of Working capital means the management of current assets and current liabilities. If these firms efficiently manage their cash, accounts receivables, accounts payables, and inventories, this will ultimately increase profitability of these companies.

12. Limitations of the study

1. The study is carried out for a period of five years only i.e., 2015 to 2019.

2. The study is based on secondary data collected from the website of S&P Capital IQ.

3. The study is carried out about 15 Trading companies.

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References

[1] Azhar, Syed. Impact of liquidity and management efficiency on profitability: An empirical study of selected power distribution utilities in India. Journal of Entrepreneurship, Business and Economics 2015. https://iranept.rcv.org.uk/empirical_analysis_of_entrepreneurship_and_economic_growth_international_studies_in_entrepreneurship.pdf

[2] Yogendrarajah, Rathiranee. Working capital management and its impact on firms' financial performance: An analysis of trading firms. Research Gate 2011. https://www.researchgate.net/publication/256088750_Working_Capital_Management_and_its_Impact_on_Firms'_Financial_Performance_An_Analysis_of_Trading_Firms

[3] Mansoori, Ebrahim. The effect of working capital management on firm's profitability: Evidence from Singapore. Interdisciplinary Journal of Contemporary Research in Business 2012. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2185840

[4] Rimsha Khalid, Tehreem Saif, Abdul Rehman Gondal, and Hamza Sarfraz. Working capital management and profitability. Mediterranean Journal of Basic and Applied Sciences (MJBAS) 2018;2(2):117-125.

[5] Nasser A. Alsulayhim. The relationship between working capital management and profitability. International Business Research 2019;12(8). DOI:10.5539/ibr.v12n8p142

[6] Kafeel, Ali, J., Ud Din, M., Waris, A., Tahir, M., and Khan, S. Working capital management and firms' profitability: dynamic panel data analysis of manufactured firms. Journal of Financial Risk Management 2020;9:494-517. DOI:10.4236/jfrm.2020.94027

[7] Arnaldo Arnaldi, Barbara Novak, Remo Roscigno Wu Zhan. Working capital management and profitability: Empirical evidence. International Journal of Business Management and Economic Research (IJBMER) 2021;12(2).

[8] Ul Haq, Ikram, Muhammad Sohail, Khalid Zaman, and Zaheer Alam. The relationship between working capital management and profitability: A case study of cement industry in Pakistan. Research Gate 2011. https://www.researchgate.net/publication/288946070

[9] Panigrahi, CMA (Dr.) Ashok. Relationship between inventory management and profitability: An empirical analysis of Indian cement companies. SSRN 2013. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2342455.

[10] Karaduman, Hasan Agan, Halil Emre Akbas, Arzu Ozsozgun, and Salih Durer. Effects of working capital management on profitability: The case for selected companies in the Istanbul stock exchange (2005-2008). Research Gate 2010. https://www.researchgate.net/publication/290164649_Effects_Of_Working_Capital_Management_On_Profitability_The_Case_For_Selected_Companies_In_The_Istanbul_Stock_Exchange_2005-2008

[11] Thappa, Sankar. Working capital management in Indian oil and gas industry – A case study of Reliance Industries LTD. Academica Science Journal 2014. https://www.researchgate.net/publication/334442075_Working_Capital_Management_In_Indian_Oil_Gas_Industry_-_A_Cas_Study_of_Reliance_Industries_LTD

[12] Safdar Sial, Muhammad, and Aqsa Chaudhry. Relationship between

working capital management and firm profitability: Manufacturing sector of Pakistan. Research Gate 2012. https://www.researchgate.net/publication/255855851_Relationship_between_Working_Capital_Management_and_Firm_Profitability_Manufacturing_Sector_of_Pakistan

[13] Asif Iqbala and Zhuquan Wang. Effect of working capital management on profitability. 2018 5th International Conference on Key Engineering Materials and Computer Science (KEMCS 2018).

[14] Puteri Shahirah Binti Ghazali. Relationship between working capital management and profitability. https://www.researchgate.net/publication/336720653_Relationship_Between_Working_Capital_Management_and_Profitability

[15] Ntui Ponsian, Kiemi Chrispina, Gwatako Tago, Halim Mkiibi. The effect of working capital management on profitability. International Journal of Economics, Finance and Management Sciences 2014;2(6):347-355. DOI:10.11648/j.ijefm.20140206.17

[16] Rajwinder Kaur. To analyze relationship between working capital management and profitability. International Journal of Management, Technology and Engineering. https://www.researchgate.net/publication/343162003_To_Analyze_Relationship_between_Working_Capital_Management_and_Profitability

Chapter

The Effect of Internal Corporate Governance of the Firm's Performance and Firm Value in Five GCC Countries

Zahra AL Nasser

Abstract

A critical glance at the literature review of GCC countries, firm performance and firm value shows that the literature does not adequately consider the uniqueness of an institutional setting such as the presence of royal family members and government officials' members on the board. Additionally, noticeable features are not accounted for in the previous literature, such as a large involvement of relatives and the presence of a female on the board of directors. It is important to understand whether these variables matter or not in this region as this then influences the firm's performance and firm value. Thus, this study focuses on the effect of internal CG of the firm's performance and firm value in five GCC countries. The final sample consists of 220 firms (1,096 firm-year observations) for the fiscal year 2009 to 2013. The main finding is that there is a positive significant relationship is seen between expertise factors and firm performance. The expertise factor encompasses royal family members on the board as well as hiring one of the Big 4-auditing firms. This result is in line with a theoretical claim (agency theory), the research question expectation and empirical evidence.

Keywords: royal family, board of directors, corporate governance, firm performance

1. Introduction

There is agreement among scholars with regard to the limitation of CG research or studies in emerging markets. According to Nenova [1], CG in the developing countries is suffering from the effects of a number of issues including transferring the value from minority to controlling shareholders, a poor legal system, the problem of auditing practice and non-transparency disclosure. A critical glance at the literature review of GCC countries, firm performance and firm value shows that the literature does not adequately consider the uniqueness of an institutional setting such as the presence of royal family members and government officials' members on the board. Additionally, noticeable features are not accounted for in the previous literature, such as a large involvement of relatives and the presence of a female on the board of directors. It is important to understand whether these variables matter or not in this region as this then influences the firm's performance and firm value. In addition, this question considers some features of an audit committee and their effect on a firm's performance and firm value. An audit committee is an important committee within the board committee. An audit committee is not just for supporting management by giving advice for major business decisions but also for monitoring and overseeing the management to protect shareholders' interests and to provide an independent view of corporate executives and their affairs [2]. It has been argued that an audit committee is more beneficial due to its skills and resources, which in turn affects their ability to enhance EQ, firm performance and firm value [3]. With respect to females and relatives, it is interesting to note that the region is considered a collectivistic under Hofstadte's cultural dimensions. Due to the culture and social norms, there is a fear of involving females on the board [4]. However, lately, females further engagement in the economy has grown [5]. In addition, as family ownership prevails in the region, there is a substantial involvement of relatives, which cannot be ignored [4]. Finally, the rationale of using both firm performance and firm value in the paper is that firm performance measurements (ROA and ROE) reflect performance based on historical information. This reflects previous firms' operation, and the efficiency of the firm using equity funds to generate profits [6, 7] where the firm value measurements (Tobin's Q) show performance based on firm value by market evolution of the assets [8], which in turn reflects current action [9]. In other words, firm value measurements indicate the perception of the market with respect to the firm's performance [10]. It also refers to growth and investment opportunities [11]. Firm value measurement also accounts for risk and is less likely to be manipulated as accounting measures [12]. Thus, it helps investors to estimate the growth and risk potential and shows the size of the firm. Management and investors have different interests and ways to evaluate CG; therefore, management attempt to use firm performance measurement (ROA and ROE) as the measurement to show how the wealth affects CG mechanisms. On the other hand, investors seem to prefer to value the firm structure of CG based on firm value measurement (Tobin's Q) [13].

2. GCC countries background

A brief background of GCC countries is needed to have some understanding of the institutional setting. The Gulf Cooperation Council (GCC) countries, was founded in 1981 and consists of six Arab states namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia (SA), and the United Arab Emirates (UAE), all of which are Gulf Monarchies. GCC countries are located in the Middle East. Specifically, Arabian Peninsula and their total population are 50.1 million people [14]. They also share similar Arabian culture and traditions, the faith of Islam, social structures, wealth, political development (Monarchy), and demography [15]. The primary purpose of the establishment of GCC was to enhance the cooperation and integration as well as to strengthen their economy and development through their participation in different fields such as the economy, financial affairs, education, cultural activities, social, medical, agricultural development, research development and joint projects. Between them, they can issue similar policies and regulation to achieve unity [16]. It is also worth mentioning that each country has an independent government and their own independent currencies.

GCC countries are developing countries in Asia but enjoy prosperity due to natural resources and the rapid development of their capital market [17]. Some features make GCC countries interesting when examining the effect of CG on EQ, firm performance and firm value. Recently, the GCC countries share in the world's GDP has doubled to 2.2 percent, which refer to the development of a dynamic economy [18]. This also increases the significance and importance of GCC countries in the global economy [19]. Additionally, they have followed some global norms and standards to work with international organisations. This engagement with the world raises the status of the region, which brings more benefit and increases regarding trade and investment. This marks the region as "one of the most prosperous in the world" [19].

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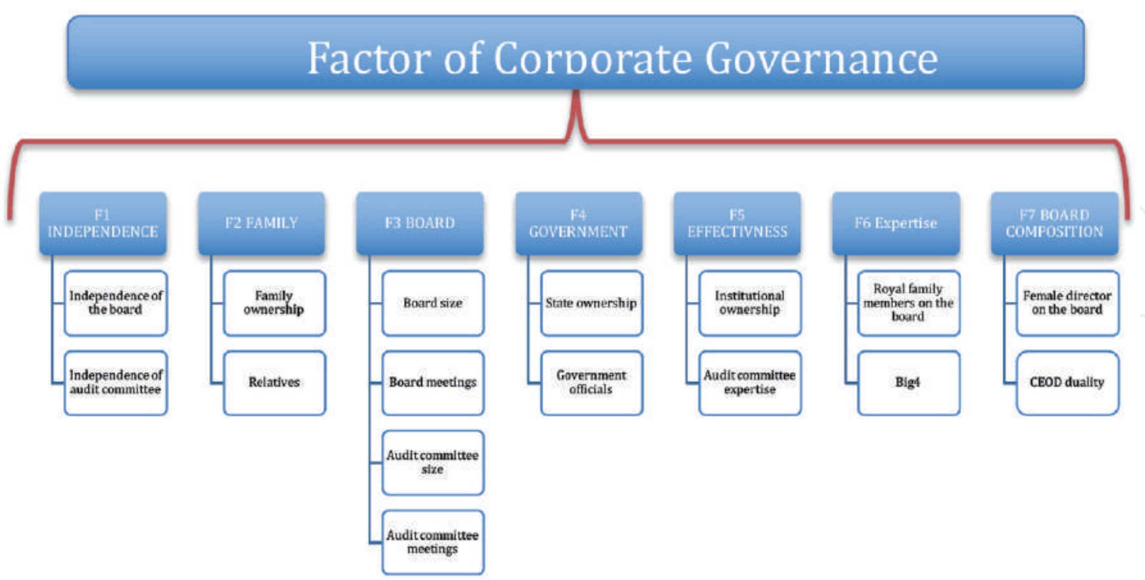
3. Theoretical framework

3.1 Agency theory

Agency theory focuses on the relationship between the principals (owners) and the agents (managers). Agency theory's justification for its existence is to establish appropriate and adequate incentives in order to eliminate opportunistic behaviours by the company's management and to ensure that they pursue and maximise not only the company's wealth and interests but, also, work on behalf of the company's shareholders [20]. From agency theory's perspective, a reduced agency problem leads to maximising the company's value and the returns on investments to its shareholders. Furthermore, agency theory suggests ways of reducing agency costs in order to increase the company's EQ. These are: namely, monitoring costs; bonding costs; and residual losses which stem from the company's internal CG structure [21, 22]. Monitoring costs are borne by the principals and are the basis of the company's monitoring mechanisms, such as internal CG mechanisms, which are used to monitor management behaviour. Bonding costs relate to the financial or non-financial mechanisms which are used to ensure the agents make an effort to maximise the principals' wealth. Residual losses happen despite the involvement of monitoring cost and bonding cost because either these can fail or be insufficiently effective to align the principals' (owners) interests with those of the agents (management). Consequently, the owners can reduce the incentives to look after themselves by using some tools such as monitoring managers' behaviours and by introducing a contract which provides an incentive to align their interests with those of the company's management [21, 23].

4. Literature review



4.1 Independence factor, firm performance, and firm value

The independent factor includes independent directors on the board of directors and audit committee. Arguably, a high percentage of independent directors on the board of directors and audit committee influence firm performance positively due to their effective monitoring [24]. However, others argue that independent directors in emerging countries are not applicable as it is "symbolic" but they are more likely to follow the management [15, 25, 26]. Nevertheless, the study follows the notion of CG code in the international practice and GCC countries and the majority of findings [27, 28] and hypothesises that:

> $H_{01:}$ *There is a positive association between independence factor, firm performance and firm value.*

4.2 Family factor, firm performance and firm value

Family factor encompasses family ownership and relatives on the board. Based on a prior discussion on relatives and family ownership, the research argues that these two variables are prevalent in the emerging markets [29] to protect family wealth and power [30], which in turn, lead to better performance [31–33]. Thus, they would play an effective role in the company, which results in better financial performance. Accordingly, the research hypothesises that:

> $H_{02:}$ *There is a positive association between family factor, firm performance and firm value.*

4.3 Board factor, firm performance and firm value

Board factor contains board size, board meetings, audit committee size and audit committee meetings. Referring back to discussed literature of board size, meetings, audit committee size and meetings; even though there are few negative findings in the literature, the majority of prior studies argue that a large board and audit committee and the high frequency of board and audit committee meetings leads to better firm performance and firm value. Accordingly, despite different findings, the study follows the majority of prior studies' findings, the recommendation of CG code and claims that the board factor leads to high firm performance and hypothesises that:

> $H_{03:}$ *There is a positive association between board factor, firm performance and firm value.*

4.4 Government factor, firm performance and firm value

Government factor encompasses government ownership and government officials on the board. Based on the prior discussion on these two variables, the research argues that the involvement of these two groups is common in the emerging markets [29] to retain their power on the firms. Thus, they may not play an effective role in the company, which results in poor performance. Accordingly, the study follows the majority of the studies [34–37] and hypothesises that:

> $H_{04:}$ *There is a negative association between government factor, firm performance and firm value.*

4.5 Effectiveness factor, firm performance and firm value

The researcher had difficulty giving a name to this factor initially. However, other researchers such as Larcker et al., [38] mention the difficulties in assigning a name to some factors. This factor captures institutional ownership and audit committee expertise and the study calls them effectiveness because both are expected to have effective monitoring. Based on a literature review of institutional ownership and an audit committee, despite some negative findings, the majority of the studies' findings concludes that institutional ownership [39] and audit committee expertise [40, 41] lead to better firm performance and firm value. Therefore, the research follows these studies and hypothesises that:

> $H_{05:}$ *There is a positive association between effectiveness factor, firm performance and firm value.*

4.6 Expertise factor, firm performance and firm value

Expertise factor includes royal family members on the board and Big4 audit firms. Based on the discussion of royal family members and Big4 firms literature, the study argues that by giving the royal family members legitimacy, privileges and status, their involvement has benefits for the firms and their shareholders which result in better firm financial performance [42–47]. Additionally, despite the mixed results in the literature of Big4 firms, the majority of the studies [48–52] conclude that Big4 firms increase firm performance and firm value. Accordingly, the research hypothesises that:

> $H_{06:}$ *There is a positive association between legitimacy factor, firm performance and firm value.*

4.7 Board composition factor, firm performance and firm value

Board composition factor captures females on the board and CEO duality. Halawi & Davidson [4] document a low female involvement on boards, around 1.5% in the GCC. Accordingly, the research argues that since there are few female directors on the board and because of the culture in emerging markets, it is likely they have a lack of qualifications, skills and business expertise needed for directorship, which might negatively influence firm performance and firm value [5, 53–56]. With regard to CEO duality, the code of GCC countries and best practice requires separation between the two roles. In addition, this study follows the majority of literature, which finds a negative association between CEO duality and firm performance [28, 57, 58]. Therefore, the study hypothesises that:

> $H_{07:}$ *There is a negative association between board composition factor, firm performance and firm value.*

5. Methodology

5.1 Measurement of firm's performance and firm value

Regarding the evolution of firm performance and firm value, there is no consensus within the literature [57]. Nevertheless, the majority of prior studies have relied on return on assets (ROA) and return on equity (ROE) which are an accounting-based measure and a measure of profitability [59, 60] and Tobin's Q which is market-based measure [13, 61–64]. ROA shows performance based on historical information, which reflects previous firms' operation, where ROE reflects the efficiency of the firm using equity funds to generate profits [6, 7]. Moreover, Tobin's Q shows performance based on firm value by the market evolution of the assets [8], which in turn reflects current action [9]. It also refers to growth and investment opportunities [11]. Tobin's Q accounts for risk and is less likely for manipulation of accounting measures [12]. Management and investors have different interests and ways to evaluate CG; therefore, management attempt to use ROA and ROE as the measurement to show how the wealth affects CG mechanisms. On the other hand, investors seem to prefer to value the firm structure of CG based on Tobin's Q and measurement [13]. Therefore, a higher ratio represents a higher return in each of these measurements.

Some studies of CG have used ROA and ROE as a measurement method (as the proxy of financial performance) [57, 65–67]. Tobin's Q is the measure used to reflect how management effectively manages assets to generate value for its shareholders and reflects the perception of a firm's financial performance by market [57]. Chung & Pruitt [68] asserts that Tobin's Q has great theoretical and practical relevance. It has been widely used in CG literature as the proxy for firm performance [61, 62, 65]. Following previous paper the author control a couple of variables as influence the analysis. These variables growth Copeland & Dolgoff [69], leverage Haniffa & Hudaib [57], Jang & Park [70], firm size performance [71, 72] and big 4 Al-Hussaini & Al-Sultan, [73] and Wang & Huang [74]. The investigation of the effect of CG on firm performance and firm value based on the principal component analysis (PCA).

5.2 Principal component analysis (PCA)

It uses the three sets of internal CG mechanisms namely: ownership structure, the board of directors and audit committee. Due to a large number of variables and the nature of CG mechanisms (variables) especially the board of directors' composition, these variables correlated with each other. Not all 16 variables of CG can be included in one regression without facing the econometric problem, which leads to difficult interpretation and involvement of measurement error. The study does not use the CG index as suggested by Larcker et al., [38]. Larcker et al., [38] argues that using CG index leads to many econometric problems. Therefore, to alleviate the measurement error and avoid multicollinearity, the principal component analysis (PCA) has been used which is a data reduction method to extract the relevant factor which is used in regression methodology to analyse the data. This method reduces the data set to a better size while continuing to hold on to the original information. PCA is identifying a parsimonious set of CG variables that affect firm performance and firm value.

6. Regression

Firm performance and firm value are a dependent variable to the explanatory variables, which include individual internal CG factors and control variables. **Table 1** summarises the CG factor and control variables investigated in this question, which include the definition of each variable and shows how they were measured.

$$Y = \alpha + \beta_1 F1\ (INDEPENDENC_{it}) + \beta_2 F2\ (FAMILY_{it}) + \beta_3 F3\ (BOARD_{it}) + \beta_4 F4\ (GOVERNMENT_{it}) + \beta_5 F5\ (EFFECTIVENESS_{it}) + \beta_6 F6\ (EXPERTISE_{it}) + \beta_7 F7\ (BOARD\ COMPOSITION_{it}) + \beta_8 LN\_GROWTH_{it} + \beta_9 LN\_LEVERAGE_{it} + \beta_{10} LN\_SIZE_{it} + \varepsilon_{it}.$$

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Symbol	**Name of variable**	**Predicted sign**	
Dependent variable			
Firm performance	LN_ROA	The natural logarithm of Return on assets	
	LN_ROE	The natural logarithm of Return on equity	
Firm value	LN_TOBIN'S Q	The natural logarithm of Tobin's Q	
Independent variable			
F1 (INDEPENDENCE)	IND	Independent directors on the board	+
	AUDITIND	Independence of audit committee member	
F2 (FAMILY)	FAMC	Family ownership	+
	RELATIVE	Relatives on the board	
F3 (BOARD)	BSIZE	Board size	+
	BMEET	Board meetings	
	AUDITSIZE	Audit committee size	
	AUDITMEET	Audit committee meetings	
F4 (GOVERNMENT)	STATC	State ownership	—
	GOV	Government officials on the board	
F5 (EFFECTIVENESS)	INSTITIC	Institutional ownership	+
	AUDITEX	Audit committee expertise	
F6 (EXPERTISE)	ROYAL	Royal family member on the board	+
	BIG 4	Big 4 audit firms	
F7(BOARD COMPOSITION)	FEMALE	Female directors on the board	+
	CEOD	CEO duality	
Control variables			
LN_GROWTH	The natural logarithm of Firm growth		
LN_LEVERAGE	The natural logarithm of Leverage		—
LN_SIZE	The natural logarithm of the Firm size		
BIG 4	Big 4 audit firms		
COUNTRY	Country dummy		?
INDUSTRY	Industry dummy		?
YEAR	Year dummy		?

Table 1.
Variables definition of model: CG, firm performance and firm value.

Coefficients predict that β1 will have positive value where β2 will have negative value. Expected to is that β3 has a positive influence on firm performance where β4 has a negative association with firm performance. Predictions are that β5 and β6 will have a positive value where β7 will take a negative value. Regarding control variables, predictions are that β8 will also have a positive influence on firm performance while β9 will have negative value. Finally, β10 will have a positive value.

7. Results and analysis

7.1 Descriptive statistics and correlation matrix

Table 2 presents descriptive statistics for the main model variables[1]. These preliminary findings show the relationship between firm performance, firm value, ownership structure and CG. The ownership structure shows that 14 percent of shares are family owned (FOC), whereas governments own 13.8 percent of shares (STATC). Approximately 21.4 percent of shares are retained by institutional investors (INSTITC), and this indicates a high percentage of institutional ownership in the region. On average, the board of directors is composed of eight members (BSIZE). In addition, there is a small representation of females (FEMALE) on the board of approximately 0.2 percent. Not surprisingly, (RELATIVES) relatives represent 11.6 percent of the boards in the region. Among these members, 59 percent are independent directors (IND). The table also reveals that CEO duality (CEOD) is approximately 7.4 percent of sampled firms. The average number of board meetings (BMEET) in the financial year is six. There are very few royal family members (Royal) and government officials (Gov) represented on these boards. This is an average 3 percent and 1.3 percent respectively.

With regard to audit committee characteristics, the average size of the committee is three members (AUDITSIZE); of which 62.8 percent are independent (AUDITIND). This committee meets approximately five times per annum (AUDITMEET). On average, 28 percent of the audit committees have at least one member who possesses financial or accounting expertise (AUDITEX). More than half of the companies hire one of the Big4 external auditors (BIG4).

Regarding control variables, on average, the firm size (SIZE) is $12.69 million. The mean of Leverage (LEVERAGE) is about 38 percent. The mean of the growth (GRWOTH) is 2.9 percent.

The cross-correlation matrix for the variables is reported in **Table 3**[2]. The results show that institutional ownership is indirectly related to firm value. Family ownership shows a positive association with firm performance. Board size is positively correlated to firm performance. Contrary to the expectation, there is a negative correlation between independence of board of directors, independence of audit committee members and firm performance and firm value, which is also significant. The CEO duality has indirect association with firm performance. The presence of royal family members and government officials has a direct correlation with firm performance. Interestingly, the number of board meetings is significantly negative with firm performance. All other correlations are relatively low indicating no problem of multicollinearity. In addition, all VIF (Variance Inflation Factor) are below a reading of 10. This may indicate that there is no problem of multicollinearity among the variables. Therefore, this also indicates the validity of data [75–77].

[1] The descriptive statistics for the main variables (dependent variables, independent variables and control variables) is before using principle component analysis (PCA) to have meaningful understanding of the data.

[2] The correlation matrix for the main variables (dependent variables, independent variables and control variables) is before using principle component analysis (PCA) to have meaningful understanding of the data.

Variable	Mean	Median	Std. Dev.	Min	Max
TOBIN'SQ	1.542	1.274	0.951	0.283	4.657
ROA	0.063	0.054	0.073	−0.090	0.264
ROE	0.108	0.099	0.120	−0.197	0.376
FAMC	0.141	0.065	0.190	0	0.991
STATC	0.138	0	0.213	0	0.893
INSTITC	0.214	0.115	0.256	0	1
BSIZE	7.882	8	1.693	4	18
FEMALE	0.002	0	0.023	0	0.571
RELATIVE	0.116	0	0.188	0	1
IND	0.595	0.571	0.270	0	1
CEOD	0.074	0	0.263	0	1
BMEET	5.634	5	2.025	1	19
ROYAL	0.027	0	0.053	0	0.2
GOV	0.013	0	0.041	0	0.285
AUDITSIZE	3.300	3	0.804	0	6
AUDITIND	0.628	0.666	0.342	0	1
AUDITMEET	4.659	4	2.213	0	21
AUDITEX	0.280	0.333	0.098	0	0.5
BIG4	0.610	1	0.487	0	1
LEVERAGE	0.380	0.350	0.222	0.068	0.820
LN_SIZE	12.691	12.609	1.662	10.100	16.078
GROWTH	0.029	0.018	0.145	−0.441	0.458

N = 1,096.
Notes: TOBIN'S Q is market value measure. ROA, is return on assets and ROE is return on equity. FAMC is the percentage of family ownership. STATC is the percentage of state ownership. INSTITC is the percentage of institutional ownership. BSIZE is board size. FEMALE is the ratio of female to the total board directors. RELATIVE is the ratio of relative to the total board of directors. IND is the ratio of independent director to the total board of directors. CEOD a dummy variable that takes the value of one if the CEO also serve as Chairman of the board and Zero otherwise. BMEET is the number board of meetings per year. ROYAL is the ratio of royal family member to the total board of directors. GOV is the ratio of government official to the total directors. AUDITSIZE is the number of directors on the audit committee. AUDITIND is the ratio of independent director in audit committee. AUDITMEET is the number of audit committee meeting per year. AUDITEX is the ratio of member with financial or accounting expertise to the total director. BIG4 is a dummy variable that takes the value of one if the company is audited by one of the BIG4 and zero otherwise. LEVEVERGE is total liabilities divided by total assets. LN_SIZE is the natural logarithm of the total assets. GROWTH is change in net sales divided by total assets.

Table 2.
Descriptive statistics-CG and firm performance and firm value-GCC countries.

7.2 Regression analysis

The regression analysis for the variables is reported in **Table 4**. A positive significant relationship is seen between expertise factors and firm performance (LN_ROA; LN_ROE: coefficient = 0.006; 0.007 p-value <5% and 10%,, respectively). The expertise factor encompasses royal family members on the board as well as hiring one of the Big 4-auditing firms. This result is in line with a theoretical claim (agency theory), the research question expectation and empirical evidence. According to Algamdi [78], the presence of ruling family members on a

	TOBIN'S Q	ROA	ROE	FAMC	STATC	INSTITC	BSIZE	FEMALE	RELATIVE	IND
TOBIN'S Q	1									
ROA	0.371*	1								
ROE	0.274*	0.798*	1							
FAMC	0.056	0.096*	0.137*	1						
STATC	0.022	0.038	0.030	−0.287*	1					
INSTITC	−0.112*	−0.043	0.022	−0.213*	−0.249*	1				
BSIZE	−0.048	0.087*	0.075*	−0.183*	0.067*	−0.127*	1			
FEMALE	−0.042	0.020	0.000	0.022	0.068*	−0.044	0.010	1		
RELATIVE	0.052	0.011	0.016	0.378*	−0.229*	−0.104*	−0.096*	−0.016	1	
IND	−0.059*	−0.135*	−0.067*	−0.024	−0.087*	0.168*	−0.198*	−0.060*	−0.078*	1
CEOD	−0.004	−0.072*	−0.100*	0.051	−0.063*	−0.087*	0.034	0.068*	0.076*	−0.068*
BMEET	−0.042	−0.139*	−0.068*	−0.067*	0.211*	−0.057	0.002	−0.040	−0.007	0.083*
ROYAL	−0.045	0.080*	0.066*	0.033	−0.003	−0.055	0.076*	−0.020	0.111*	−0.108*
GOV	−0.019	0.063*	0.120*	−0.139*	0.267*	−0.008	0.006	0.024	−0.126*	0.019
AUDITSIZE	−0.052	−0.048	−0.016	−0.006	0.081*	0.029	0.158*	0.076*	−0.044	0.130*
AUDITIND	−0.069*	−0.154*	−0.092*	0.073*	−0.123*	0.190*	−0.134*	−0.064*	0.007	0.681*
AUDITMEET	−0.015	−0.053	0.000	−0.047	0.174*	−0.078*	0.090*	−0.075*	−0.021	0.096*
AUDITEX	0.085*	−0.003	0.024	−0.022	−0.131*	−0.053	−0.056	−0.112*	−0.021	0.059*
BIG4	−0.022	0.084*	0.136*	−0.093*	0.132*	0.033	0.103*	−0.000	−0.071*	−0.046
LEVERAGE	−0.115*	−0.139*	0.105*	0.095*	−0.020	0.176*	−0.050	−0.038	0.013	0.096*
LN_SIZE	−0.013	−0.007	−0.054	−0.076*	0.160*	−0.426*	0.279*	0.030	0.065*	−0.314*
GROWTH	−0.076*	0.175*	0.166*	0.050	−0.060*	0.018	0.005	−0.008	0.022	−0.031

	CEOD	BMEET	ROYAL	GOV	AUDITS~E	AUDITIND	AUDITMEET	AUDITEX	BIG4	LEVERAGE	SIZE	GROWTH
TOBIN'S Q												
ROA												

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ROE												
FAMC												
STATC												
INSTITC												
BSIZE												
FEMALE												
RELATIVE												
IND												
CEOD	1											
BMEET	−0.006	1										
ROYAL	0.066*	−0.033	1									
GOV	−0.081*	0.088*	−0.004	1								
AUDITSIZE	−0.019	0.157*	−0.063*	0.054	1							
AUDITIND	−0.059*	0.062*	−0.035	−0.002	0.102*	1						
AUDITMEET	−0.020	0.311*	−0.077*	0.047	0.253*	0.083*	1					
AUDITEX	−0.025	−0.083*	−0.046	0.118*	−0.163*	0.146*	0.187*	1				
BIG4	−0.035	−0.007	0.103*	0.092*	0.019	−0.043	0.009	0.107*	1			
LEVERAGE	−0.101*	0.113*	−0.084*	0.042 *	0.111*	0.090*	0.154*	−0.007	0.137*	1		
LN_SIZE	0.079*	0.053	0.158*	0.065*	0.003	−0.281*	0.078*	0.03	0.068*	−0.0304	1	
GROWTH	−0.038	−0.028	−0.040	−0.006	0.075*	−0.055	0.036	−0.005	0.090*	0.117*	−0.035	1

*Notes: *,** and *** denote significant at10%, 5% and 1% levels respectively.*
TOBIN'S Q is market value measure. ROA is return on assets and ROE is return on equity. FAMC is the percentage of family ownership. STATC is the percentage of state ownership. INSTITC is the percentage of institutional ownership. BSIZE is the board size. FEMALE is the ratio of female to the total board directors. RELATIVE is the ratio of relative to the total board of directors. IND is the ratio of independent director to the total board of directors. CEOD a dummy variable that takes the value of one if the CEO also serve as Chairman of the board and Zero otherwise. BMEET is the number board of meetings per year. ROYAL is the ratio of royal family member to the total board of directors. GOV is the ratio of government official to the total directors. AUDITSIZE is the number of directors on the audit committee. AUDITIND is the ratio of independent director in audit committee. AUDITMEET is the number of audit committee meeting per year. AUDITEX is the ratio of member with financial or accounting expertise to the total director. BIG4 is a dummy variable that takes the value of one if the company is audited by one of the BIG4 and zero otherwise. LEVEVERGE is calculated as total liabilities divided by total assets. LN_SIZE is the natural logarithm of the total assets. GROWTH is change in net sales divided by total assets.

Table 3.
Correlation Martrix-CG and firm performance and firm value-GCC countries.

	Expected sign	LN_TOBIN'SQ	LN_ROA	LN_ROE
_CONS		−0.126	0.002	0.073
		−3.42	−0.22	−0.35
INDEPENDENCE FACTOR	+	−0.032	−0.001	0
		−0.07	0	0
FAMILY FACTOR	+	−0.04	−0.001	0.007
		−0.13	−0.01	−0.01
BOARD FACTOR	+	−0.059	0.001	0.001
		−0.04	0	0
GOVERNMENT FACTOR	—	0.029	0	−0.005
		−0.09	0	−0.01
EFFECTIVENESS FACTOR	+	−0.041	0.001	0.004
		−0.06	0	0
EXPERTISE FACTOR	+	−0.022	0.006**	0.007*
		−0.08	0	0
BOARD COMPOSITION FACTOR	—	−0.049	−0.002	−0.001
		−0.04	0	0
LN_GROWTH	+	−0.052	0.013	0.002
		−0.27	−0.02	−0.04
LN_LEVERAGE	—	−0.098	−0.057	0.035
		−0.76	−0.05	−0.07
LN_SIZE	+	0.029	0.013	0.014
		−0.26	−0.02	−0.03
L.LN_TOBINQ		−0.028		
		−0.03		
L.LN_ROA			−0.164**	
			−0.08	
L.LN_ROE				−0.046
				−0.1
YEAR DUMMY		Yes	Yes	Yes
INDUSTRY DUMMY		Yes	Yes	Yes
COUNTRY DUMMY		Yes	Yes	Yes
N		408	408	408

*Notes: *,** and *** denote significant at10%, 5% and 1% levels respectively.*
LN_TOBIN'S Q is the natural logarithm of market value measure. LN_ROA, is the natural logarithm of return on assets and LN_ROE is the natural logarithm of return on equity. INDEPENDENCE FACTOR includes independent of the board of directors and independent of the audit committee. FAMILY FACTOR includes family ownership and relatives. BOARD FACTOR includes of board size, board meeting, audit committee size and audit committee meeting. GOVERNMENT FACTOR includes government ownership and government officials on the board. EFFECTIVENESS FACTOR includes audit committee expertise and institutional ownership. EXPERTISE FACTOR includes royal family members on the board and Big 4 audit committee. BOARD COMPOSITION FACTOR includes CEO duality and female directors on the board. LN_GROWTH is the natural logarithm of change in net sales divided by total assets. LN_LEVEVERGE is the natural logarithm of total liabilities divided by total assets. LN_SIZE is the natural logarithm of the total assets.

Table 4.
GMM regression-CG, firm performance and firm value- model 1-GCC countries.

board increases firm performance as they may expand the company's competitive environment and therefore, benefit the companies through networking and their privileges, leading to better performance. This supports the majority of politically connected firms literature [42–47].

In relation to the Big-4, prior studies show a positive relationship between Big-4 and firm performance. This is particularly the case in weak investor protection environments where firms which hire one of the Big-4 audit firms have a better performance record [79–82]. This is because Big-4 audit firms are concerned with their brand and reputation [83–85]. Another explanation is that royals may use their influence or power to secure the expertise of Big 4 audit firms.

With respect to other factors, namely independence factor, family factor, board factor, government factor, effectiveness factor, board composition factor and control variables (growth, leverage, and firm size), My study fail to find any significance between these variables, firm performance and firm value under GMM regression.

My study first conducted OLS regression and panel data regression. Under the pool OLS regression of model 1, independence factor shows a negative and significant relationship with firm performance while the board factor indicates a negative and significant association with firm value. These results are contrary to the study expectations and also with agency theory. Government factor shows a positive relationship with firm performance and firm value. Expertise factor shows a positive association with firm performance. With regard to control variable, growth and leverage appear to have a significant association with firm performance and firm value. Most of these significant factors disappear with the study's control for endogeneity problem.

7.3 Robustness test

To check the robustness of the results, the study conducts several additional tests. First, the study runs regression models using a different measurement of firm performance (Adj ROA) and firm value (Adj Tobin's Q). The study runs the main model again using some additional variables such as period, corruption and minority shareholders. These results remain unchanged with these variables but period, corruption and minority shareholders are not statistically significant with firm performance and firm value using the GMM regression approach.

8. Discussion

The study utilises the model that is based on PAC Some point can be highlighted:

The main observations are that the results in the model are inconclusive and there needs to be further study in this area. The results reveal that royal family members on the board and Big-4 have a positive influence on firm performance and firm value. A possible explanation is that under PCA the variance of one variable influences another variable. Thus, this observation indicates that the results from PCA may not give a clear picture. However, if the expectation of the study does not support the finding under the model, the study may tell a more interesting story. According to model, CG factor has a similar impact on long term and short term firm performance. In addition, royal family influence Big4 audit firms to use their expertise to enhance firm performance and firm value.

The independence factor does not have a significant relationship with firm performance and firm value, thus, policymakers should strengthen the role of independent directors through the improvement and restriction of requirements and procedures of nominating independent directors on the board. Independent directors are some of the most important directors on the board as they can be more accountable than an executive [86, 87] due to their independent judgement of board decisions [88, 89].

9. Conclusion

This chapter present the results and evidence of the effect of CG on a firm's performance and firm value in GCC countries. A critical glance at the literature review of GCC countries, firm performance and firm value shows that the literature does not adequately consider the uniqueness of an institutional setting such as the presence of royal family members and government officials' members on the board. Additionally, noticeable features are not accounted for in the previous literature, such as a large involvement of relatives and the presence of a female on the board of directors. It is important to understand whether these variables matter or not in this region as this then influences the firm's performance and firm value. Thus, this study focuses on the effect of internal CG of the firm's performance and firm value in five GCC countries. The final sample consists of 220 firms (1,096 firm-year observations) for the fiscal year 2009 to 2013. The main observations are that the results of both models are inconclusive and warranting further investigation. However, if the study looks at the support of findings under these two models, the study may still tell an interesting story. Thus, some corporate governance variables have a different effect on firm performance and firm value. Finally, the study offers some recommendations to policymakers with regard to independent directors from the analysis from the model.

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References

[1] Nenova, T. (2003). The Value of Corporate Voting Rights and Control: A Cross- Country Analysis. Journal of Financial Economics, 68(3), 325-351.

[2] Harrison, J. R. (1987). The strategic use of corporate board committees. California Management Review, 30(1), 109-125.

[3] Ismail, W., Adibah, W., Van Zijl, T., & Dunstan, K. (2010). Earnings quality and the adoption of IFRSbased accounting standards: Evidence from an emerging market. Available at SSRN 1566634

[4] Halawi, A., & Davidson, B. (2008). Power Matters: A Survey of GCC Boards. National Investor, Investment Research.

[5] Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: A review and research agenda. Corporate Governance, 17(3), 320-337. http://doi.org/10.111 1/j.1467-8683.2009.00742.

[6] Epps, R. W., & Cereola, S. J. (2008). Do institutional shareholder services (ISS) corporate governance ratings reflect a company's operating performance?. Critical Perspectives on Accounting, 19(8), 1135-1148.

[7] Leng, A. C. A. (2004), 'The impact of corporate governance practices on firms' financial performance', ASEAN Economic Bulletin, Vol. 21, No. 3, pp. 308-18.

[8] Tobin, J. (1969). A general equilibrium approach to monetary theory. Journal of money, credit and banking, 1(1), 15-29.

[9] Kiel, G. C., & Nicholson, G. J. (2003). Board Composition and Corporate Performance: How the Australian Experience Informs Contrasting Theories of Corporate Governance. Corporate Governance: An International Review, 11(3), 189-205.

[10] Weir, C., Laing, D., & McKnight, P. J. (2002). Internal and External Governance Mechanisms: Their Impact on the Performance of Large UK Public Companies. Journal of Business Finance and Accounting, 29(5), 579-611.

[11] Ding, Y., Zhang, H. & Zhang, J. (2007) Private versus state ownership and earnings management: evidence from Chinese listed companies. Corporate Governance: An International Review 15: 223-238.

[12] Al-Matari, E. M., Al-Swidi, A. K., & Fadzil, F. H. B. (2014). The measurements of firm performance's dimensions. Asian Journal of Finance & Accounting, 6(1), 24-49.

[13] Black, B. S., Jang, H. & Kim,W. (2006). 'Does corporate governance predict firms' market values? Evidence from Korea'. Journal of Law, Economics, and Organization, 22 (2): 366-413.

[14] Amico, A. (2014). Corporate Governance Enforcement in the Middle East and North Africa. OECD Corporate Governance Working Papers, (15).

[15] Baydoun, N. (2013). Corporate governance in five Arabian Gulf countries. Managerial Auditing Journal, 28(1), 7-22.

[16] Amico, A. (2012). The role of MENA stock exchanges in corporate governance.

[17] IFC, international finance corporation (2008). Family Business Governance Handbook, <http://www. ifc. org/ifcext/corporategovernance.nsf/ AttachmentsByTitle/Family+Business_ Second_Edition_English+/$FI LE/ Englilsh_Fam- ily_Business_Final_2008. pdf>, pp. 23-27.

[18] Held, D., & Ulrichsen, K. (Eds.). (2013). The transformation of the Gulf: politics, economics and the global order. Routledge.

[19] Nugée, J., & Subacchi, P. (Eds.). (2008). The Gulf Region: A New Hub of Global Financial Power. Chatham House (Formerly Riia).

[20] Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of financial economics, 3(4), 305-360.

[21] Eisenhardt, M. (1986). Agency Theory!: and Assessment Review. Accounting Management Review, 14(1), 57-74.

[22] Shabbir, A. & Padgett, C. (2005). 'The UK Code of Corporate Governance: Link between Compliance and Firm Performance', Working Paper, ICMA Centre, available at: http://ssrn.com/abstract=934313.

[23] Jebran, K., Chen, S., Tauni, M. Z., & Ahmad, H. (2019). Corporate Governance, ultimate owner, and target cash holdings: evidence from China. *SAGE Open*, *9*(4), 2158244019894293.

[24] Byrd, J. W., & Hickman, K. A. (1992). Do outside directors monitor managers?: Evidence from tender offer bids. *Journal of financial economics*, *32*(2), 195-221.

[25] Al-Musalli, M. A. K., & Ismail, K. N. I. K. (2012). Corporate governance, bank specific characteristics, banking industry characteristics, and intellectual capital (IC) performance of banks in Arab Gulf Cooperation Council (GCC) countries. Asian Academy of Management Journal of Accounting and Finance, 8(1), 115-135.

[26] Mahadeo, J. D., Soobaroyen, T., & Hanuman, V. O. (2012). Board composition and financial performance:Uncovering the effects of diversity in an emerging economy. Journal of Business Ethics, 105(3), 375-388.

[27] Gupta, M., & Fields, L. P. (2009). Board independence and corporate governance: Evidence from director resignations. Journal of Business Finance & Accounting, 36(1-2), 161-184.

[28] Ho, C.A. & Williams, S.M. (2003). International Comparative Analysis of the Association between Board Structure and the efficiency of Value Added by a Firm from its Physical Capital and Intellectual Capital Resources. The International Journal of Accounting, 38, 465-491.

[29] La Porta, R., LopezSDeSSilanes, F., & Shleifer, A. (1999). Corporate ownership around the world. The journal of finance, 54(2), 471-451.

[30] Cruz, C. C., Gomez-Mejia, L. R., & Becerra, M. (2010). Perceptions of benevolence and the design of agency contracts: CEO-TMT relationships in family firms. Academy of Management Journal, 53(1): 69-89.

[31] Kappes, I., & Schmid, T. (2013). The effect of family governance on corporate time horizons. Corporate Governance (Oxford), 21(6), 547-566.

[32] McConaughy, D.L., Matthews, C.H. & Fialko, A.S. (2001). Founding-family-controlled firms: performance risk and value. Journal of Small Business Management 39(1): 31- 49.

[33] Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value?.*Journal of financial* Economics, *80*(2), 385-417.

[34] Gupta, N., (2005). Partial privatization and firm performance. Journal of Finance 60 (2), 987-1014.

[35] Liu, G. S. & Sun, S. P. (2005). The class of shareholdings and its impacts on corporate governance: A case of state shareholdings composition in Chinese publicly listed companies. Corporate Governance: An International Review, 13: 46-59.

[36] Sun, Q. & W. Tong (2003), 'China Share Issue Privatization: The Extent of its Success', Journal of Financial Economics, Vol. 70, pp. 182–222.

[37] Wei, Z., Xie, F. & Zhang, S. (2005) Ownership structure and firm value in China's privatized firms: 1991-2001, Journal of Financial and Quantitative Analysis, 40: 87-108.

[38] Larcker, D. F., Richardson, S. a., & Tuna, I. (2007). Corporate Governance, Accounting Outcomes, and Organizational Performance. The Accounting Review, 82(4), 963-1008.

[39] Yan, X. & Zhang, Z., (2009). Institutional investors and equity returns: are short-term institutions better informed. The Review of Financial Studies, 22(2), 893-924. http://dx.doi.org/10.1093/revfin/hhl046 Notes

[40] Amer, M., Ragab, A., & Shehata, S. (2014). Audit Committee Characteristics and Firm Performance: Evidence from Egyptian Listed Companies. In 6th Annual American Business Research Conference on Sheraton LaGuardia East Hotel, New York, USA.

[41] Kipkoech, S. R. (2016). Audit Committee Size, Experience and Firm Financial Performance . Evidence Nairobi Securities Exchange, Kenya, Research Journal of Finance and Accounting. 7(15), 87-95

[42] Charumilind, C., Kali, R., Wiwattanakantang, Y., (2006). Connected lending: Thailand before the financial crisis. Journal of Business 79, 181-218.

[43] Faccio, M. (2006). Politically connected firms. The American economic review, 96(1), 369-386.

[44] Fisman, R. (2001). Estimating the value of political connections. American Economic Review, 91: 1095– 1102.

[45] Johnson, S., & T. Mitton, (2003), "Cronyism and Capital Controls: Evidence from Malaysia,"Journal of Financial Economics, 67, 351-382.

[46] Leuz, C., & Oberholzer-Gee, F. (2006). Political relationships, global financing, and corporate transparency:Evidence from Indonesia. Journal of Financial Economics, 81(2), 411-439.

[47] Siegel, J., (2005). Can foreign firms bond themselves effectively by renting US securities laws? Journal of Financial Economics 75, 319-359.

[48] Van Tendeloo, B. and A. Vanstraelen. (2008). Earnings Management and Audit Quality in Europe: Evidence from the Private Client Segment Market. European Accounting Review 17 (3): 447-469

[49] Van Tendeloo, B., & Vanstraelen, A. (2005). Earnings management under German GAAP versus IFRS. European Accounting Review, 14(1), 155-180.

[50] Lin, J., & Hwang, M. (2010). Audit Quality, Corporate Governance, and Earnings Management: A MetaAnalysis.i International Journal of Auditing. Vol.10. Pp. 1099-1123.

[51] Charles. J., Stanley, C., & Charlotte, H. (2010). The Imp act Of Audit Quality On Earnings Management to Achieve User Reference Points In EPS. Journal of Applied Business Research. Vol. 26 No.1, p19-30

[52] Chen, C. J. P., Chen, S., & Su, X. (2005). Profitability Regulation, Earnings Management, and Modified

Audit Opinions: Evidences from China. Auditing: A Journal of Practice & Theory. Vol. 20(2), pp 9-30.

[53] Adams, R. and Ferreira, D. (2009). Women in the Boardroom and Their Impact on Governance and Performance. Journal of Financial Economics, 94(2) 291-309.

[54] Falato, A., Kadyrzhanova, D., & Lel, U. (2014). Distracted directors: Does board busyness hurt shareholder value?. Journal of Financial Economics, 113(3), 404-426.

[55] Field, L., Lowry, M., & Mkrtchyan, A. (2013). Are busy boards detrimental?. Journal of Financial Economics, 109(1), 63-82.

[56] Smith, N., Smith, V., & Verner, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish firms. International Journal of productivity and Performance management, 55(7), 569-593.

[57] Haniffa, R., & Hudaib, M. (2006). Corporate Governance Structure and Performance of Malaysian Listed Companies, 33(October), 1034-1062.

[58] Rutledge, R. W., Karim, K. E., & Lu, S. (2016). The effects of board independence and CEO duality on firm performance: evidence from the NASDAQ-100 index with controls for endogeneity. Journal of Applied Business and Economics, *18*(2), 49.

[59] Baysinger, B. D., & Butler, H. N. (1985). Corporate governance and the board of directors: Performance effects of changes in board composition. *Journal of Law, Economics, & Organization*, 1(1), 101-124.

[60] De Vuyst, V., & Ooghe, H. (2001). Corporate performance and board structure in Belgian companies. Long range planning, 34(3), 383-398

[61] Yermack, D. (1996). Higher market valuation of companies with a small board of directors. Journal of Financial Economics, 40(2), 185-211.

[62] Agrawal, A.& Knoeber, C. R. (1996). Firm performance and mechanisms to control agency problems between managers and share- holders. Journal of Financial and Quantitative Analysis, 31: 377-397

[63] Beiner, S., Drobetz, W., & Schmid, M. M. (2006). An Integrated Framework of Corporate Governance and Firm Valuation, 12(2), 249-283

[64] Henry, D. (2008). Corporate Governance Structure and the Valuation of Australian Firms!: Is There Value in Ticking the Boxes!?, 35(October), 912-942.

[65] Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. The quarterly journal of economics, 118(1), 107-156.

[66] Core, J., Guay, W. & Rusticus, T. (2006) Does Weak Governance Cause Weak Stock Returns? An Examination of Firm Operating Performance and Investors' Expectations, Journal of Finance, 61, 2, 655-687.

[67] Cui, T.Q., Evans, E., Wright, S. & Crowe, S., (2008). Have the objectives of the ASX recommendations on good corporate governance been achieved? [Online] Working Paper, Macquarie University. Available from: http://www.newcastle.edu.au/Resources/Faculties/Faculty%20of%20Busines s%20and%20Law/Seminars/Business%20Seminar%20Series%202007/BusSeminarPaper18092007.pdf

[68] Chung, K. H. & Pruitt, S. W. (1994) A simple approximation of Tobin's q, Financial Management, 23, 70-74

[69] Copeland, T., & Dolgoff, A. (2011). *Outperform with expectations-based*

management: a state-of-the-art approach to creating and enhancing shareholder value. John Wiley & Sons.

[70] Jang, S., & Park, K. (2011). Inter-relationship between firm growth and profitability. International Journal of Hospitality Management, 30, 1027-1035.

[71] Velnampy, T. (2005). A study on investment appraisal and profitability. Journal of Business Studies, 2(1), 23-35

[72] Amato, L. H., & Burson, T. E. (2007). The Effects of firm size on profit rates in the financial services. Journal of Economics and Economic Education Research, 8(1), 67-81.

[73] Al-Hussaini, A., & Al-Sultan, W. (2008). DEVELOPMENT OF ENFORCEMENT MECHANISMS FOLLOWING ADOPTION OF INTERNATIONAL ACCOUNTING STANDARDS IN THE GULF CO-OPERATION COUNCIL MEMBER STATES. *Journal of International Business Strategy*, 8(3).

[74] Wang, M. & Huang, M (2014). Which types of institutional investors constrain abnormal accruals?. Corporate Governance: An International Review, 22(1), 43-67.

[75] Tabachnick, B. & Fidell, L. (2001) Using Multivari- ate Statistics, 3rd edn. New York: Harper Collins College.

[76] Bowerman, B. L., & O'connell, R. T. (1990). *Linear statistical models: An applied approach*. Brooks/Cole.

[77] Myers, R. H. (1990). Classical and modern regression with applica- tions (2nd edition). Boston: PWS-Kent.

[78] Alghamdi, S. A. (2012). Investigation into Earnings Management Practices and the Role of Corporate Governance and External Audit in Emerging Markets!: Empirical Evidence from Saudi Listed Companies.

[79] Choi, J. H., & Wong, T. J. (2007). Auditors' governance functions and legal environments: An international investigation. Contemporary Accounting Research, 24(1), 13-46.

[80] Choi, J. H., Kim, J. B., Liu, X., & Simunic, D. A. (2008). Audit pricing, legal liability regimes, and big 4 premiums: Theory and cross-country evidence. Contemporary Accounting Research, 25(1), 55-99.

[81] Niskanen, J., Karjalainen, J., Niskanen, M., & Karjalainen, J. (2011). Auditor gender and corporate earnings management behavior in private Finnish firms. Managerial Auditing Journal, *26*(9), 778-793.

[82] Rodríguez, M. C., & Alegría, S. S. (2012). The value of audit quality in public and private companies: evidence from Spain. Journal of Management & Governance, *16*(4), 683-706.

[83] Francis, J. R., & Krishnan, J. (1999). Accounting accruals and auditor reporting conservatism. Contemporary Accounting Research, 16(1), 135-165.

[84] Kim, H., Hoskisson, R. E., Tihanyi, L., & Hong, J. (2004). The evolution and restructuring of diversified business groups in emerging markets: The lessons from chaebols in Korea. Asia Pacific Journal of Management, 21(1/2), 25-48.

[85] Wiwanya, T. & Aim, J. (2008). The relationship between audit committee characteristics, audit firm size and earnings management in quarterly financial reports of companies listed in the stock exchange of Thailand. 8th Global Conference on Business & Economics, Florence Italy, 18-19th October.

[86] Fama, E. F. (1980). Agency Problems and the Theory of the Firm. Journal of political economy, 88(2), 288-307

[87] Sonnenfeld, J. A. (2002) What Makes Great Boards Great, Harvard Business Review, 106-113.

[88] Chhaochharia, V. & Y. Grinstein, (2009). CEO Compensation and Board Structure. Journal of Finance 64 (1):231- 261.

[89] Cadbury, A. (1992). Cadbury report: The financial aspects of corporate governance. Tech reprt, HMG, London.

Chapter

Organizational Culture: A Systems Approach

Herbert Nold and Lukas Michel

Abstract

The influence of organizational culture on performance is increasingly being recognized as a major force driving success in the 21st Century. Many models for organizational culture are widely employed by consultants worldwide. A fundamental weakness in most existing culture models is that they view culture as a stand-alone element within the organization. Accordingly, the tools used to provide insight to executives focus on the culture to the exclusion of other dynamic, interrelated, forces within the organization. We believe that this stand-alone view of culture contributes to the high failure rate of efforts to change the culture. This chapter introduces the Performance Triangle Model as a holistic approach to view organizational culture as part of an intricate, dynamic, interrelated triad of culture, leadership, and systems. We will describe the Performance Triangle and many underlying dimensions that comprise the triad and chart the emergence and development of the model. The later parts of the chapter will discuss practical applications that have been proven using a statistically validated diagnostic instrument that enable executives to recognize what is going in in their organizations then take effective, quick, targeted action. The PTM approach helps executive design agile organizations fit for the 21st Century.

Keywords: organizational culture, performance triangle, organizational agility

1. Introduction

Recognition of the powerful influence of culture on organizational performance has been steadily growing for several decades. Numerous books and research papers have been published using a variety of models and methods attempting to assess various dimensions and strength of those dimensions within the organization. There appears to be wide agreement with Schein's definition of organizational culture as a set of beliefs, values, and shared assumptions "invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration—that has worked well enough to be considered... the correct way to perceive, think, and feel in relation to those problems." ([1], p.9). Hofstede suggested that organizational culture consists of core values that are often unconscious and rarely discussable [2]. Both of these descriptions appear throughout the literature on organizational cultures and combined provide a readily recognizable and useful description of organizational culture. Many researchers and authors have demonstrated the power of culture on organizational performance using both qualitative and quantitative methods.

The widely used, "Culture eats strategy for breakfast" has been bantered around in various forms in management writing and thinking for many years with multiple versions attributed to Peter Drucker, Jack Welch, and others, yet despite the widely accepted recognition that culture is a powerful force in determining success or failure of organizational initiatives, executives seemingly fail to take affirmative action in dealing with cultural inhibitors. Nold and Hagelthorn [3] found that in the context of cross-national mergers and acquisitions, 90% of executives acknowledge that culture was a key factor in the success or failure of the venture. Yet, less than 10% took specific actions to address cultural disconnections either in the due diligence or implementation phases of the project. Executives explored financial and operational issues and established wide ranging goals for operations, financial performance, quality, and market penetration yet rarely focused on the culture with the result that nearly 80% of cross-national mergers and acquisitions fail. We continue to ask "why" do executives acknowledge the importance of culture yet apparently bury their heads in the sand when it comes to acting.

We believe that there are many reasons for this apparently illogical behavior. Tom Peters in *In Search for Excellence* [4] and *A Passion for Excellence* [5] provided renewed focus on the old saying that, "What gets measured gets done". Business schools worldwide have perfected curriculum that emphasizes data driven decision making indoctrinating students on methods to measure performance in order to get things done. Just take a good look at the AACSB criteria that emphasizes quantitative research and accreditation criteria that focuses on research, research, more research. Course curricula at both the undergraduate and graduate level focus on data driven decision making which indoctrinates students with the unconscious and rarely discussable belief that executives must base decisions on hard data. Combine that academic conditioning with the overwhelming demand by stakeholders for quantitative proof of performance to earn bonuses, promotions, or recognition and executives shy away from intangibles that are difficult to measure and even more difficult to understand. Human nature is to avoid what you do not understand or feel comfortable with so executives avoid the issue in the absence of a tool to quantify the intangible.

The annual "employee survey" is a common event in many companies which we believe implies that people need fixing rather than the management systems or leadership. The annual "employee survey" is done to try to control mamagers and give executives cover for missing communications and unclear strategies that are always at top of the list of problem areas identified by employees. Rather than an annual exercise of questionable value, diagnostics should be an infrequent feedback tool for organizational development. We propose a methodology to help quantify many key intangibles of organizational culture along with other heretofore invisible dimensions of that drive performance and the ability of organizations to be agile, to rapidly adapt, and change in the VUCA (**V**olatile, **U**ncertain, **C**omplex, and **A**mbiguous) world that characterizes the 21st Century business environment.

2. Organizational culture as part of a dynamic system

Most of the popular instruments used to assess organizational culture use models that view organizational culture as a standalone dimension. Many proposed models such as the Competing Values Framework (CVF) popularized by Kim Cameron and Robert Quinn, the Denison Model, and Schein's layered framework are joined by a host of other models [6–8]. Popular instruments such as the Organizational Culture Inventory (OCI), Organizational Culture Assessment Instrument (OCAI), the Culture Gap Survey (CGS), Organizational Beliefs Questionnaire (OBQ), the Corporate Culture Survey (CCS), Denison's Organizational Culture Survey, and the Great Place To Work Institute methodology attempt to provide insight into many beliefs and values held by a group of people but largely ignore how the culture interacts with other key elements of the organization [8, 9]. We suggest that viewing culture as a standalone organizational attribute is a major contributing factor to the low success rate of change initiatives that has been estimated at between 20–30% [10].

Since Descartes, the "scientific method" was built on the basic assumption that a system could be broken down into its individual components for analysis then the system could be understood by adding up all of the various sub-components in a linear fashion [11]. The "scientific method" essentially assumes that systems are closed systems in that the components of the system and the system in total exists in isolation and is unaffected by outside forces. Ludwig von Bertalanffy described organizations as dynamic systems where all parts are inextricably connected with each part is dependent on and influenced by the other parts and the external environment, similar to a living organism [12]. Rather than a system being the sum of the parts, the functions of a system are characterized by the complex interactions among all of its components and external forces [13] General systems theory assumes that components of the system and the system itself is open to environmental forces that shape and influence both the components and the system in its entirety. Alfred Kuhn [14] observed that within social systems, like an organization, communication or flow of information and knowledge among the various components of the system and the system as a whole provides the energy for the system. Decisions made by all members that influence or are influenced by the system represent outcomes which can be readily observed. According to Kuhn, "Culture is communicated, learned patterns…and the society [organization] in a collective of people having a common body and process of culture." ([14], p. 154). According to Kuhn, subcultures can only be interpreted when viewed relative to all of the other subcomponents of the system and culture must be viewed as a pattern of behaviors within the system. Therefore, the study of the social interactions that power the system consists of interpreting "communicated, learned patterns common to a relatively large groups [of people]" [p. 157].

With regard to organizational systems, Walonick suggested that healthy organizational systems must change through time in order to remain healthy and productive [11]. However, since organizational systems are open, they are sensitive to changes in the general environment as well as to internal changes. The ability of all parts of the organizational system to anticipate, sense, and adapt to environmental change is a key factor for success. Decisions powered by the flow of information and knowledge throughout the system become observable outcomes by which to evaluate the health of the system (organization). General systems theory forces scholars, executives, and consultants to expand the scope of their investigations to consider how the flow of information and resulting decisions affect all of the subcomponents of the system, the system as a whole, and the general environment [11].

We believe that organizations must be viewed holistically and that effective change initiatives require conscious actions and reactions to all parts of a dynamic system. We believe that in order to improve on the 70–80% failure rate, it is necessary to assess "unconscious and rarely discussable" dimensions of leadership, systems, and culture that permeate all elements of an organization. It is necessary for executives to gain insight into many heretofore unseen dimensions of these key components of every organization in order to form targeted actions to deal with these invisible issues. The question then becomes twofold, what are the critical "unconscious and rarely discussable" dimensions and can they be measured"? After nearly two decades of observation and research, we suggest that the answer is **YES**!

3. The Performance Triangle Model

Our work on The Performance Triangle Model (PTM) for organizational design in a turbulent world emerged from nearly twenty years of observation and research with over 200 organizations worldwide [15, 16]. The PTM shown in **Figure 1** describes a dynamic system of culture, leadership, and systems that is powered by people who work in an environment that nurtures healthy relationships, collaboration, and a strong sense of purpose. Culture is a major component of the dynamic system and cannot be effectively changed without recognizing and addressing key elements of the ENTIRE system [14, 11]. Chris Argyris and Donald Schón popularized the concept of "actionable knowledge" as knowledge that is required to support or shape a decision and take action [17]. While teaching university courses we constantly emphasize the need for action and decisive decision making. Knowledge without resulting action is worthless to an organization, so we have developed and validated a diagnostic instrument to assess the strength of multiple dimensions that drive the PTM system [18]. Over the decades, we have observed countless organizations where unseen beliefs and shared assumptions infect large segments of an organization that interfere with knowledge sharing and decision making process like a virus in the human body. These interferences are almost always unknown to senior executives and derail or sabotage the most well-conceived strategic plan or

Figure 1.
The Performance Triangle Model.

action. In most cases, executives would be wise to address the interferences and eliminate the viruses BEFORE spending valuable energy and resources on change initiatives with a low probability of success. We contend that armed with insight into many "unconscious and rarely discussable" beliefs, values, and shared assumptions embedded within the employee population, executives will be able to take targeted and effective actions to design organizations that will be successful in a VUCA 21st Century environment and dramatically increase the probability of a successful change initiative.

4. Qualitative and quantitative foundations of the Performance Triangle Model

The concept and resulting diagnostic tools for the Performance Triangle emerged and gained definition over nearly 20 years from observations and data gathered from case studies involving over 200 organizations in different industries throughout the world plus results from survey data gathered from a sample of 50 organizations between 2006 and 2011. A unique opportunity in 2014 with a large sample allowed us to subject the diagnostic instrument to independent statistical analysis. Analysis of qualitative and quantitative information from these multiple sources revealed recurring themes and relationships between specific dimensions of organizations that evolved into the Performance Triangle Model and established statistical validity and reliability of our diagnostic instrument.

4.1 Qualitative origins

After carefully analyzing responses from senior business leaders from case studies over 10 years representing over 100 firms, several trends, recurring themes, and stated concerns began to stand out as significant. Three primary groupings of themes were identified as being essential for success in a dynamic and fluid 21st Century business environment: leadership, systems, and culture.

Several themes revolving around leadership emerged. The need for intense, focused, and rapid leadership and managerial interactions in response to an increasingly fast-paced and complex business environment became apparent. This observation coincided with the fact that an increasing number of employees were hired for their knowledge and not for their physical contributions to work. The trend toward knowledge workers and knowledge economy has been documented by many researchers and authors for decades [19–21]. Feedback from senior executives and leaders suggested that this changing demographic called for a different leadership style requiring more involvement and engagement with people at all levels both internal and external to their organizations. Creating and maintaining a healthy environment that enables knowledge workers to maximize their unique and valuable abilities required focus of attention and constant energy from leaders and managers throughout the organization.

Several common themes emerged revolving around command and control systems in response to growing organizational complexity and pressure from increasing governmental regulation. Business leaders frequently indicated that traditional command and control systems with traditional tools and methods that were introduced in the industrial 20th Century were becoming increasingly less effective. Complex 21st Century organizational structures required different ways to maintain adequate data and behavioral control while simultaneously empowering operational managers enough authority and flexibility to make effective on-the-spot decisions.

Time also emerged as a recurring theme related to systems in the sense that time is a scarce resource that is non-recoverable once gone. Maximizing efficient use of a leader's or manager's time as well as reducing the time needed to get relevant information into the right decision makers hands when and where it is needed were growing concerns. Feedback from executives consistently indicated concern that decisions were being made based on data and information that was inaccurate or not relevant to the question or that relevant information was received AFTER a decision was made that might have resulted in a different decision if available in a timely manner. Either situation resulted in a flawed or less than optimal management decisions. Time related themes associated with speed, quality, and efficiency of information and knowledge flow enabled by systems were frequent and emphatic.

The third major theme that emerged over this 10-year period was a growing awareness of the hidden potential of intangible, human, factors that shape human behaviors and responses. With increasing frequency business leaders identified the need for shared beliefs, values, and assumptions in the collective minds of organizational members which forms and defines the organization's culture. Growing numbers of leaders identified intangible "unconscious and rarely discussable" dimensions of the culture as a key factor for improving performance, innovation, and unlocking new sources of profitability. Themes involving organizational culture as the unseen force connecting systems and leadership emerged such that organizational culture clearly was a critical factor for success. Successful executives must have insight, a keen understanding, and an appreciation for the power that organizational culture exerts.

Combining and visualizing these three central themes resulted in the emergence of a dynamic triangular system consisting of leadership, systems, and organizational culture which is powered by the unique talents and skills of people. Energy for this people-centric system is transmitted throughout the system by people with a shared sense of purpose with healthy relationships that enable effective collaboration. Superior performance in the VUCA 21st Century demands that organizations harness the vast energy of people with shared values, beliefs, and assumptions within the organization to be successful. Perceptions and opinions are one thing, but business leaders asked what value a theory or model brings to the organization and asked if recommendations emerging from the PTM were based on fact or opinion. In order to answer this important question, it became necessary to subject the emergent themes to statistical analysis using a survey instrument to capture data to test for correlation significance and fit with the PTM.

4.2 Quantitative analysis: phase one

4.2.1 The sample

Between 2006 and 2011, responses from PTM surveys from a sample of 50 organizations were compiled identifying relationships among recurring themes that shaped the PTM. The general research question was "Are there relationships between leadership, systems, culture and success"? The hypothesis for each intersection of leadership, culture, systems, and success was that there would be a significant relationship. The survey consisted of 120 questions designed to provide insight into numerous aspects of leadership, systems, culture, and success that were consistently identified as key elements in many case studies. Senior level leaders and managers in these 50 organizations responded to questions asking them to assess the perceived strength of the element within their own organizations using a 9-point Likert-type scale. The sample encompassed a wide array of industries, firm sizes, countries, and ownership forms as identified in **Figure 2**.

Organizations	50
Participants	895 participants; Range from 3 to 80 per organization with an average of 18 participants per organization
Time Period	2006 through 2011
Industries Surveyed	Financial Services (6); Manufacturing and Construction (7); Consumer Goods and Food (10); Logistics and Energy (3); Media and Tourism (5); Pharmaceuticals and Chemicals (5); Public Service (5); Foundations (2); Professional Services (7)
Firm Size (Number of Employees)	0-99 (13); 100-199 (17); 1,000-9,999 (12); > 10,000 (8)
Country (of origin)	US/Canada (5); Central Europe (24); Middle East/Africa (6); United Kingdom (5); Asia (5); Latin America (2); Australia/New Zealand (3)
Ownership	Public Shareholders (28); Private/Family (15); Public Service (5); Foundations/NGO (2)
Scope (of operations)	Global (10); International (15); Local (25)

Figure 2.
Sample Demographics.

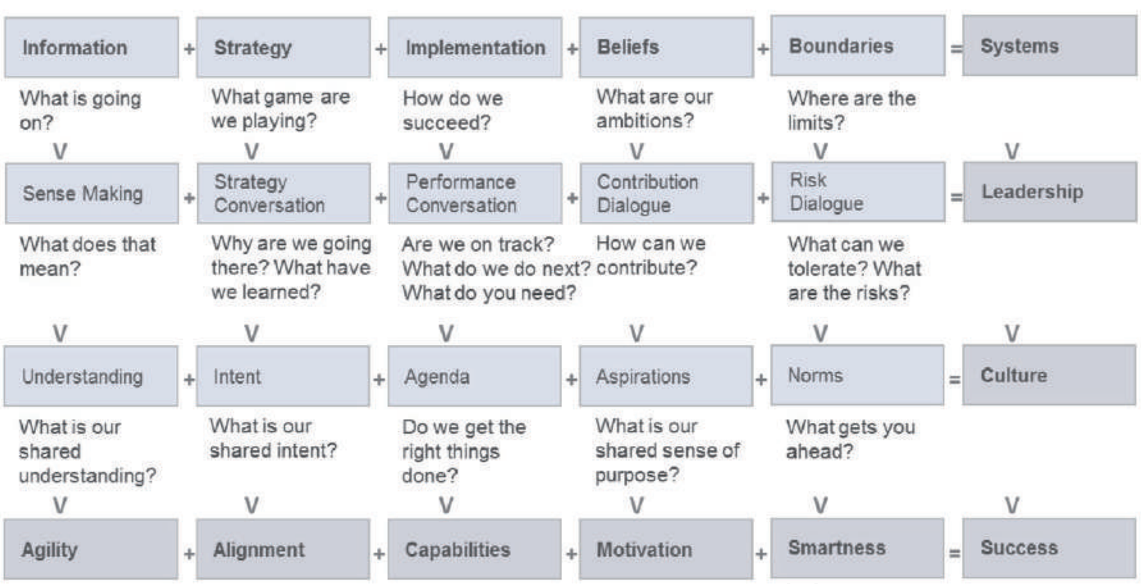

Figure 3.
Factors and Themes.

4.2.2 The themes

Each theme of the survey (leadership, systems, culture, success) was broken down into five elemental factors that were identified as significant in the qualitative phase of the PTM development. Questions were developed for each factor based on observations in the case studies and designed to assess the degree of influence of specific factors within the organization as perceived by the respondent. **Figure 3** shows the factors within each theme and the thematic question explored by the factor.

The objective of the study was to assess the perceived relative strength of these elements in the organization as a whole. The survey was employed as a diagnostic tool for practical evaluation of the subject organizations and the results shared with the sponsoring executive in each organization. We found that individuals quickly and easily understood data on a 100-point scale or as a percentage. Since the results represent an assessment of the degree or strength of the perception, we found that an association with temperature or percentage to be useful and practical to facilitate understanding with business executives. Therefore, it became necessary for presentation purposes to normalize responses to each factor on a scale of 1 to 100 in order to allow executives to quickly and easily comprehend the intensity of the themes within the organization. Values on the Likert-type scale 1, 2, 3, 4, 5, 6, 7, 8, 9 translated into 0, 12.5, 25, 37.5, 50, 62.5, 75, 87.5, and 100 on the 100-point scale, similar to the Celsius temperature scale. Regardless of the scale, relationships and correlations remain unchanged.

4.2.3 Phase one survey results and interpretation

Analysis of data from responses by senior level managers in 50 organizations with an average of 18 participants in each company suggested the existence of meaningful relationships between the central themes of culture, leadership, systems, and success. Using MINITAB statistical software for statistical analysis, results indicated that the correlations between these relationships are significant providing positive support for the hypotheses and the general research question. **Table 1** shows descriptive statistics for individual themes, correlations, and the regression analysis of relationships between themes.

Table 1 indicates that regression analysis performed on the responses from the sample of 50 firms shows a significant correlation among the themes of the

Themes	**Mean**	**Median**	**Std. Dev.**	
Leadership	69.84	69.35	13	
Systems	68.17	68.55	12.31	
Culture	68.97	68.95	14.35	
Success	73.52	72.2	11.49	
Theme	**Leadership**	**Systems**	**Culture**	
Systems	0.694			
Culture	0.551	0.562		
Success	0.509	0.581	0.52	
(Note: $p < .001$ for all results)				
Relationships	**Correlation**	**Y-Intercept**	**Slope**	**F-Value**
Success vs. Culture	0.52	44.8	0.416	17.77
Culture vs. Leadership	0.55	26.4	0.609	30.95
Culture vs. Systems	0.56	24.3	0.655	22.15
Leadership vs. Systems	0.69	19.9	0.733	44.63
Success vs. Leadership	0.51	42.1	0.45	16.81
Success vs. Systems	0.58	36.5	0.543	24.5
(Note: $p < .001$ for all results)				

Table 1.
Descriptive Statistics, Correlations, and Linear Regression of Relationships (N = 50).

Performance Triangle Model. The strongest positive correlation in the sample is between systems and leadership giving an early indication that these attributes of the PTM can drive effective decision-making.

4.3 Quantitative analysis: phase 2

Qualitative and quantitative study in phase one led to the development and refinement of a diagnostic instrument designed to yield additional insight into many unseen elements of dynamic management systems, structures, and processes, including culture. Making a precise and relevant evaluation of the dynamic management structure of an organization is inherently difficult because of the vagueness, multidimensional nature, and complexity of the phenomenon [22–24]. Verdú and Gómez-Gras observed that tools developed to evaluate multidimensional organizational systems have rarely been supported by empirical testing [25]. Part of the reason for the lack of empirical testing is that relevant factor analysis requires data from a large sample, typically over 500 participants, during the same time period. All of the cases used to develop the PTM model and diagnostic instrument had less than 500 participants, except one. Application of the diagnostic instrument with a large organization in 2014 provided a unique opportunity for independent statistical testing conducted by faculty with a PhD in statistics at a major university in Germany.

4.3.1 The sample

The sample consisted of all employees working for a mid-size city government in the southeastern United States. A series of highly publicized scandals in the city resulted in the recommendation by a select committee of citizens for a survey of the culture and morale of the all city employees. The PTM diagnostic tool was selected after comparison to multiple "morale survey's" because the model and diagnostic instrument provided greater depth and insight into the organization as a system and contributors to "morale" as well as the high degree of perception for change. 1,162 employees participated out of a total employee population of 2,400 (48.4% participation rate). Participants were asked to identify the department in which they work and whether they were a top executive (department or assistant department head), supervisor (anyone below department head with supervisory responsibility), and employees (anyone with no supervisory responsibility). **Figure 4** shows the distribution of all participants horizontally by management level and vertically by department. Departments with less than ten employees were grouped into "Other" to protect the confidentiality of individual respondents.

4.3.2 Design of the diagnostic instrument and data gathering

The diagnostic instrument consisted of 55 statements worded to provide insight into the strength of perception by employees pertaining to specific elements and dimensions of the PTM. Participants were asked to rate perceptions on a 9-point Likert type scale ranging from very strongly disagree (1) to very strongly agree (9). Questions were worded such that senior executives were asked to evaluate the strength of the dimension within the departments in their area of responsibility. All other participants were asked to evaluate perceptions within their work group or department. This approach provided visibility into potential disconnects between what executive and employees perceive on the same construct.

Due to the size and diversity of the sample, responses were collected in multiple ways. Responses were captured electronically, transmitted through the internet, and stored on a secured server for analysis and interpretation. With full cooperation

	Total	Electric Utility	Finance	Police	Airport	Community Dvpt.	Parks & Recreation	Information Technology	Water Utility	The Lakeland Center	Fire	Public Works	Other
Executives	38	8	2	2	1	1	2	1	1	2	2	2	14
Supervisors	421	86	15	39	5	17	74	17	47	21	29	50	20
Employees	703	162	23	94	6	34	103	37	75	12	47	65	45
Total	**1162**	**256**	**40**	**135**	**12**	**52**	**179**	**55**	**123**	**35**	**78**	**117**	**79**

Figure 4.
Distribution of Sample Participants.

of the information technology department, links to the diagnostic instrument were transmitted to executives via email while all other participants were allowed access to the instrument on computers at their workstations. Kiosks were set up and made available to all employees who did not have a permanent workstation. All participants were given time while on the job to participate and several videos were created and transmitted to all participants explaining the reason for the project, how the process works, and to provide assurance of confidentiality. Employees had ten days in May 2014 to participate. At the conclusion of the data gathering window, raw data was transmitted to the independent research team in Germany for analysis.

4.3.3 Test methodology

Similar to Charbonnier-voirin [26] exploratory factor analysis was performed to assess the validity of the individual dimensions of the system in the PTM with Cronbach's alpha to determine internal reliability of the primary constructs. The factor structure and psychometric qualities of the model were successfully analyzed using SPSS 23.0. Principle Component Analysis (PCA) with varimax rotation with Kaiser normalization was employed in order to test the dimensionality of the construct. PCA is often used in the development phase of a questionnaire [27]. The purpose of PCA is to retain enough items to characterize the phenomenon. Similar to Roussel [28] items with factor loadings below 0.5 were eliminated from the PCA analysis.

For the PCA the seven primary constructs of the PTM were clustered into three groupings. Effective leadership is strongly influenced by systems that provide timely and relevant information to key decision makers. Conversely, leadership styles strongly influence the design and implementation of systems. Therefore, leadership and systems are grouped into cluster 1. Culture, representing unseen values, beliefs, and shared assumptions is a very strong influence on the behavior of people, leaders, and systems is cluster 2. The entire system is powered by people through relationships, collaboration, purpose and focus therefore multiple people-centric constructs are aggregated into cluster 3.

4.3.4 Results

As seen in **Table 2**, results of exploratory factor analysis on the specific dimensions of the PTM are all greater than 0.5 with 13 of 20 (65%) factor loadings above 0.70. Factor loadings for dimensions of leadership are particularly high with 4 of 5 above 0.80. The results suggest that the statements used to evaluate the dimensions

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						Principal Component Analysis (PCA)		
		Instrument Tests				Cluster 1	Cluster 2	Cluster 3
Michel Model Component	**Dimension**	**Chronbach's Alpha**	**Mean**	**SD**	**Factor Loading**	**Leadership & Systems**	**Culture**	**People Relationships Purpose Collaboration**
		α				0.83	0.81	0.81
Culture		0.81						
Culture	Understanding		7.22	1.94	0.60	0.37	0.59	0.25
Culture	Intent		6.40	2.33	0.73	0.37	0.75	0.26
Culture	Agenda		6.25	2.39	0.68	0.25	0.87	0.22
Culture	Aspirations		6.10	2.36	0.72	0.29	0.85	0.29
Culture	Norms		6.05	2.35	0.75	0.32	0.83	0.29
Leadership		0.83						
Leadership	Sense Making		6.58	2.38	0.83	0.80	0.35	0.24
Leadership	Strategy Conversation		6.40	2.44	0.79	0.78	0.30	0.28
Leadership	Performance Dialogue		6.48	2.34	0.82	0.84	0.32	0.20
Leadership	Contribution Dialogue		6.52	2.37	0.80	0.84	0.30	0.19
Leadership	Risk Dialogue		6.36	2.56	0.82	0.81	0.27	0.29
Systems		0.58						
Systems	Rules		5.93	2.30	0.69	0.56	0.31	0.33
Systems	Routines	6.34	2.24	0.73	0.53	0.36	0.42	
Systems	Tools		6.57	2.18	0.74	0.61	0.61	0.42
Connectors		0.67						
Connectors	Collaboration		6.96	2.21	0.62	0.20	0.20	0.81

						Principal Component Analysis (PCA)		
		Instrument Tests				Cluster 1	Cluster 2	Cluster 3
Michel Model Component	**Dimension**	**Chronbach's Alpha**	**Mean**	**SD**	**Factor Loading**	**Leadership & Systems**	**Culture**	**People Relationships Purpose Collaboration**
Connectors	Relationships		7.23	1.96	0.62	0.22	0.22	0.84
Connectors	Purpose		6.48	2.29	0.74	0.53	0.53	0.59
People		0.81						
People	Focus		5.90	2.25	0.66	0.45	0.19	0.53
People	Awareness		6.10	2.18	0.77	0.65	0.21	0.50
People	Trust		6.77	2.08	0.62	0.27	0.32	0.71
People	Choice		6.06	2.33	0.68	0.52	0.23	0.56

Table 2.
Construct reliability, descriptive statistics, factor analysis and PCA.

comprising the PTM have high levels of validity. Those that evaluate dimensions of leadership are particularly strong. Since all of the dimensional items have factor loadings greater than 0.5, all were included in the subsequent PCA analysis.

Cronbach's alpha for the major constructs of culture, leadership and people were all above 0.80 demonstrating good internal validity. Cronbach's alpha for systems and the connectors of the model (purpose, collaboration, relationships) indicate questionable internal validity. Low alphas for systems and the connectors may partially be due to the few numbers of items in the instrument. Cronbach's alpha for all three clusters is above .81 suggesting strong internal validity.

Results from the PCA analysis shown in **Table 1** shows a clear factor structure supporting the major constructs of the model. After six iterations three distinct factors emerged for each of the three clusters. The results reveal that 19 of the 20 the dimensions have factors greater than 0.5 suggesting that the diagnostic is a good fit with the model.

Because of the tight interrelationship of leadership with systems, the dimensions comprising leadership and systems in the model were grouped into cluster 1. All of the factors are above 0.5 in cluster 1 however leadership and systems are commonly separated in the literature. Further work is advisable to analyze each attribute separately. One possible approach might be to simplify some of items to provide a greater distinction between leadership and systems. Interestingly, three dimensions associated with people in cluster 3 (purpose, awareness, choice) also have factor weightings above 0.5 indicating a possible strong association with leadership and systems.

Cluster 2 is made up of dimensions of culture in the model. All of the factor weightings are greater than 0.5 suggesting that the model is consistent with the literature dedicated to culture. Three (agenda, aspirations, and norms) having factors greater than 0.8 suggesting a particularly strong association or influencing component of organizational culture. Interestingly, two items (tools and purpose) outside of the culture cluster have factor weighting greater than 0.5 suggesting possible relationships with culture.

Cluster 3 aggregates the group of dimensions corresponding to intra- and inner-people-centric dimensions of the model. The only item below 0.5 is awareness, however, 0.495 is only .005 away from the 0.5 threshold therefore awareness is also included and considered relevant. The results are consistent with the literature dedicated to human performance. Interestingly, the people dimension of purpose yields factor weightings above 0.5 in all three clusters suggesting that people in organizations who share a common purpose can have a significant influence in all aspects of the organization and are instrumental in an agile organization.

The overall results offer strong evidence that the components of Performance Triangle Model for organizational systems; culture, leadership, systems, and people when aligned contribute to building agile and successful organizations and that the diagnostic instrument has a good level of validity and reliability [18]. Further, the PTM diagnostic instrument has adequate reliability and validity on which to base recommendations and give executives valuable insight into many intangible "unconscious and rarely discussable" dimensions of the culture that were identified in the qualitative phase of development [18].

5. Practical implications

After nearly 20 years of research and study by a team of practitioners and academics in Europe and the USA, we are confident that there are many lessons learned and practical implications. Organizational culture is a key factor for success in the VUCA 21st Century business world. Evaluating the underlying "unconscious and rarely discussable" elements or the influence of culture on the performance of an organization must be done holistically by considering how the culture interacts with leadership and systems. Further, since the culture is contained in the shared values, beliefs, and assumptions of the people, power for the organizational system comes from people and linked through shared purpose, relationships, and collaboration. Executives and leaders at all levels must first ask the "right" questions in order to gain insight into those pesky "unconscious and rarely discussable" beliefs, values, and shared assumptions.

5.1 How do we measure success?

In the 20th Century, success was traditionally measured using tangible assets and for-profit companies still measure success by stock price, earnings per share, return on assets, etc. While such financial measures are important, we prefer to define success by attributes of successful organizations that we have observed. By defining success by attributes rather than financial performance or tangible assets, we can include not-for-profit organizations, NGO's, governmental agencies, and private companies in addition to the for-profit companies. We have observed that top tier companies have strong foundations in responsiveness, alignment, capabilities, motivation, and cleverness. The PTM diagnostic assessment tool helps assess the perceived intensity of these dimensions within the employee population in answering the following questions.

Responsiveness – Is the organization flexible and able to react to changes in the environment?

Alignment – Is the direction of the organization clear? Does the structure fit the strategy? Is it shared broadly and are employees aligned to support the strategies?

Capabilities – Does the organization have the competencies and skills needed to deliver on promises?

Motivation – Are employees throughout the organization inspired to perform above and beyond expectations?

Cleverness – Are employees empowered to be creative and use their creativity to meet expectations or demands from clients or customers within boundaries that do not stifle creativity?

We feel that if the answer to these questions is yes, then the organization will likely be successful. Essentially, if people are equipped with proper capabilities, are aligned and motivated to excel, and empowered to use their innate creativity to react to changes; the organization will be successful. Unfortunately, if (for example) well intentioned rules and regulations stifle creativity or if actions in one department interfere with the ability of another department to align with corporate strategy, senior executives will rarely be aware of the condition. Few employees will walk into the CEO's office and say "you are killing me with unnecessary rules" in any organization.

5.2 Culture: the glue that binds the organization

We agree with the assertion that culture has two major components (visible and invisible), underlying beliefs, values, and shared assumptions that shape the collective thoughts that can be observed through decisions, behaviors, and actions of the people in the organization. Culture has a stabilizing effect on the organization and helps people make things meaningful and predictable. Each organization has a unique culture that evolves over years and is reinforced as people absorb, repeat, and pass along what works. There may be an infinite number of dimensions that make up the culture of an organization, but we have identified five attributes that seem to be nearly universal and thrive, unseen, in the minds and actions of employees at all levels of the organization. These five attributes help form a shared context within the organization.

Understanding – Do people in the organization see the same things? Do people understand WHAT it takes to win?

Intent – Do the people in the organization think the same way? Do people share a common idea, view, and direction of the organization? Do people know HOW to play the game to win?

Agenda – Do people do the same things and play a well-coordinated game? Are people moving in the same direction with common goals and objectives and priorities?

Aspirations – Do people aim at the same things? Do people share a common vision and values of the organization to find purpose and drive performance?

Norms – Do people act in the same way? Do people know what gets them ahead, share appropriate boundaries, and do what they say they are going to do?

We have seen many organizations where the answer to one or more or all of these attributes is a resounding NO. In our classes and client workshops, we frequently ask students or clients if they have observed situations where managers or executives clearly have agendas that are more self-serving that supportive of organizational goals and invariably many hands immediately go up. We had a client several years ago where we found that managers and executives believed that rules and boundaries were well known and appropriate. Yet, the overwhelming response from people throughout the organization was that people had conflicting agendas and aspirations and that bending rules to advance their career was an acceptable norm. Our suggestion to the senior leadership of this organization was to spend a year getting everyone on the same page and following the same rules before starting big change initiatives. Today, this governmental organization is functioning demonstrably better and serving the needs of the community much more effectively.

5.3 Leadership: shaping vision and inspiring the organization

It is commonly accepted that the culture of an organization is shaped from the top of the management hierarchy down. We generally accept this belief however we have observed many organizations where there is a huge disconnect between what top executives THINK is going on and what the rank-and-file employees ACTUALLY believe. It does not matter whether this apparent disconnect is real or imagined, the perception makes it real. Leaders and managers at all levels must recognize that their actions and behaviors are being observed and interpreted by employees through the lenses of their own beliefs and values. Unknowingly, many leaders fail to connect with employees and inadvertently communicate conflicting values and beliefs throughout the organization. Employees will rarely approach the CEO and tell them that "you said (this)…. But we actually did (that)… which is it and what is going on?" The result in many cases is that employees are left to develop their own interpretation that, in many cases, are inconsistent with organizational goals. Leadership is a complex and indefinable quality, but we have identified five "unconscious and rarely discussable" leadership attributes that contribute to weakening the culture and performance of the organization.

Sense making – Are managers and employees aware of what is going on? Do we have the capability to quickly turn data into information and make informed decisions?

Strategy conversation – Are the strategies and tactics in the game broadly known and trusted throughout the organization? Does the strategy provide direction and help establish trust and encourage critical thinking among employees throughout the organization?

Performance conversion – Do managers effectively and routinely communicate whether the organization and individuals are on track toward meeting organizational goals? Do managers go beyond traditional performance measurement to translate strategy into objectives and establish a shared agenda?

Contribution dialogue – Do managers help staff make sense of what is going on and find a sense of purpose? Do managers maintain an ongoing conversation with direct reports to reach mutual agreement and focus attention on how employees can make a contribution?

Risk dialogue – Do leaders and managers maintain ongoing conversations with others to define boundaries and establish trust? Do leaders conduct conversations to help people focus on entrepreneurial degree of freedom and on risk limits as boundaries?

In our observations with clients and research we have found that many leaders and managers avoid having personal, face-to-face, discussions of this nature unless forced to do so, typically in the highly structured and stressful annual performance review. Employees will almost never go to the boss and tell them "I have no idea what we are trying to accomplish" or "I don't know if I should do … (this)… or (that)" until after the fact, when it is too late. Managers typically assume that followers KNOW it. Yet, more time than not, they DO NOT KNOW it. Without continuous dialogue in all of these areas a significant gap between leaders and followers develops that can by highly destructive. We had a client with a new CEO. The client was attempting to respond to declining market share and a host of other internal and external changes. The client was spending large sums of money on consultants who were implementing six-sigma, or lean, or leadership training programs and getting almost nowhere. After conducting a diagnosis of the top managers in the organization it became apparent that there were significant unseen barriers to any kind of change initiative. High level managers had the perception that if they took a risk and the risk did not yield the expected benefits, they would be reprimanded or worse. The new CEO had no idea that this was a shared assumption. This realization explained why the change initiatives, all of which involve risk taking, were unsuccessful. We recommended that the CEO take an extended period to have constructive dialogues with his senior managers to change these underlying beliefs BEFORE starting extensive change projects.

5.4 Systems: rules, routines, and tools that shape decisions

Systems are both influenced by and influence the culture and leadership practices that shape the decision-making process. When we talk about systems, we are not just talking about the computerized IT systems but the rules and routines that shape the input and output from the computerized tools. Everyone reading this chapter is familiar with the phrases "garbage in… garbage out" and "what gets measured, gets done" but we contend that such thinking is just scratching the surface of the complex dimension that we call "systems". What managers and employees do with the output from IT systems and how that output shapes decisions and behaviors seems to be rarely considered. Similarly, we have witnessed many examples of systems that were developed in prior decades being used to drive decisions today despite the fact that world and the business environment is dramatically different. We have seen many instances where managers created systems to generate relevant data needed to solve some problem or give the organization an edge… 20 years ago.

The problem was solved, partially with the aid of the data, and the company gained an edge over competitors. Sadly, today, those same managers are making decisions using the same data that is no longer relevant because the problem was solved decades ago, and the competitive dynamics have changed significantly. What was relevant and meaningful 20 years ago may not be today, leading to fateful decisions. It therefore becomes imperative for leaders to constantly critically evaluate whether the rules, routines, and tools being used to drive decisions are relevant and shape desired behaviors. We have identified five questions, the answers to which provide insight into "unconscious and rarely discussable" beliefs, values, and shared assumptions that either inhibit or enable the effectiveness of systems.

Information – Do we get relevant information to the right people at the right time to make informed and effective decisions? Does the information provide adequate sensors so that people know what is going on and does the information facilitate immediate action?

Strategy – What game are we playing, is it the right game, and are we all playing the same game? Does the strategy help focus capabilities and provide a sense of purpose for employees throughout the organization?

Implementation – Are expected outcomes clearly defined and consistently applied? Is there rich conversation on expectations that facilitates collaboration throughout the organization?

Beliefs – Do leaders inspire and engage employees throughout the organization to do more than the norm, or minimum expectation? Do leaders practice behaviors that demonstrate a clear vision and values of how things are to be done?

Boundaries – Are the limits or degree of freedom clearly established and known throughout the organization? Do the boundaries provide adequate focus while allowing people to take advantage of opportunities?

Developing and constantly adapting effective rules, routines, and tools that shape effective decision making requires constant inquiry and dialogue with day-to-day decision makers from top to bottom of the organization. Peter Drucker said that "The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday's logic." We have seen countless organizations attempting to adapt to a changing business environment using systems and logic that worked fine.... 20 years ago, ... but is woefully outdated in the 21st Century world. We worked with one company that insisted on using the same metrics and routines that were successful for the first 20 years after the company was founded... in 1964. All of the senior executives had the same profile; first job out of college, mentored by one of the founders, rose through the ranks with their mentor's tutelage, never questioned the metrics or the decision-making process, and believed in their own superiority because of their history. The result is that the decision-making process is not measured in days, or month, but years and the decisions are being made using information that was no longer relevant but since the executives know no other system. The company continues on a downward spiral with no idea on how to go about changing the downward trajectory of the company. People brought in from the outside who introduce new ideas were inevitably ostracized and driven out of the company. New ideas that question the strategy, beliefs, or boundaries were viewed as heresy to be stamped out. Given the intertwined relationship between systems, leadership, culture and the people who power the system it is imperative for executives to constantly ask questions then make adjustments throughout the organization.

5.5 People: the power for the system

People are complex and difficult to handle yet the underlying beliefs, values, and shared assumptions of people determine the success or failure of all organizations.

Virtually every organization on the planet has some public statement along the lines of "people are our greatest asset". Human resources departments in organizations worldwide conduct initiatives intended to shape desired behaviors and improve performance throughout the organization. We subscribe to the theory that culture exists in the minds and personalities of people at multiple levels that can be divided into two general groups: climate and culture. The climate part of organizational culture includes the visible artifacts, behavior patterns, and norms that can be readily observed and can be relatively easily influenced by management through rewards or punitive actions. The culture part is invisible and difficult to assess because it exists in the values, beliefs, and basic assumptions that can only be assessed indirectly. We can observe artifacts and behaviors and draw a conclusion about the underlying beliefs and values, but it is difficult to know for sure what those beliefs and values really are. People can modify behaviors to mask their underlying true beliefs and values. We all know this.

We contend that it is relatively easy to shape behaviors but very difficult to change underlying beliefs and values of people which provides the power to the system that drives success. So, is it possible to identify some of the most critical beliefs, values, and shared assumptions that shape behaviors? If so, can the strength of these dimensions be assessed directly. We suggest that the answer is, yes and yes. The PTM identifies four dimensions of the culture that we believe are key to harnessing the power of people to drive the system and ultimately success of the organization.

Awareness – Are people aware of what is happening around them? Can people sense minute changes in the work environment internally or externally to the organization?

Choice – Are people empowered to use their creativity and make choices to effectively respond to customers, clients, or other people inside and outside of the organization? Do people have the freedom of action within appropriate boundaries?

Trust – Do people view management as credible, fair, and respectful of the needs, concerns, and conditions of employees? Do people have the self-efficacy and confidence to trust in their own decisions and actions?

Focus of attention – Has management created an environment that allows people to focus their skills, abilities, and talents to perform their jobs effectively? Does management create interferences that prevent people from being able to focus their attention of being effective and productive?

Those of us who were involved in sports know how someone or a team can get into a "zone" when everything they do works. A weaker team or player can defeat a stronger team or player when they get hot, and the game becomes easy when every shot goes in or every play works. The game becomes really fun, at least for the team in the "zone". In the workplace, management should strive to create an environment where people get into a state of "flow" where they enjoy what they do, and it seems easy [29]. Yet, Peter Drucker and others have observed that, "So much of what we call management consists of making it difficult for people to work". We have observed countless instances where management inadvertently introduced interferences that prevent awareness, choice, trust, and focus thereby preventing people from getting into a state of "flow". Typically, these interferences are unintended consequences from attempts to control the organization or behaviors of people. Also, typically, people throughout the organization almost never question the "boss" or go to the "boss" and tell him that what he is doing is hurting the people or the organization.

We ran into one of the most extreme, and humorous, example of this in 2016 (the date is important). During a workshop with the executives of a company in Germany our assessment of the people dimensions indicated that there were many interferences that prevented people from being able to focus their attention on doing their jobs. This was a surprise to the CEO who asked his management team for an example whereupon several executives almost immediately named "the Friday gasoline report". The ensuing conversation went something like this:

> *CEO: **WHAT** Friday gasoline report?*
> *Executives: The report that every driver in the fleet of vehicles submits Friday morning with how much gasoline they used during the week and how much gasoline is in the tanks for the next week. The report is collected and compiled by supervisors, then managers, then ultimately submitted to your administrative assistant every Friday.*
> *CEO to his administrative assistant: What do you do with the gasoline report?*
> *Administrative assistant: I file it in in the storage room down the hall.*
> *CEO: **WHAT** storage room down the hall?*

The administrative assistant then led the CEO and the executive team to the storage room what was filled, floor to ceiling, with filing cabinets full of Friday gasoline reports dating back to 1942. Gas rationing during World War II made such a report very important and the Friday gasoline report was apparently added to job descriptions and was never questioned over the decades as people came and went. For 74 years, people generated the report that was just filed away and never used for anything. The example of the Friday gasoline report not only illustrates how interferences get into organizations causing employees to lose focus, but it shows how important the interrelationships between people, systems, culture, and leadership really are. For example, regular open and honest dialogue on the relevance of information or contribution dialogue could have identified such an interference decades before 2016. Since 2016, the Friday gasoline report is no longer done, and the storage room has been cleaned out and repurposed. The point of this true story is that until executives become aware of "unconscious and rarely discussable" beliefs, values, and shared assumptions or in this case a routine it is virtually impossible for people to get into a state of flow and become the valuable assets that so many company's champion.

5.6 Purpose, relationships, and collaboration: transferring people power throughout the system

People provide the power for the PTM system of culture, leadership, and systems and that power is transmitted and flows throughout the organization when people have a common purpose, healthy relationships, and collaborate effectively. As with a two-wheel bicycle, a person provides the power to make the wheels turn but the system needs a chain to connect the power source (the person) with the wheels; a mechanism that is largely "unconscious and rarely discussable" connects people with the rest of the PTM system. We have identified three such dimensions with the following characteristics.

Purpose – Do people have a strong common and shared sense of higher purpose? Does the purpose that motivates people inspire people to go above and beyond the minimum expectations?

Relationships – Do people have healthy relationships that build trust and agreement among employees and external stakeholders alike? Do the relationships among employees and stakeholders facilitate knowledge sharing and growth?

Collaboration – Do employees and stakeholders share unique knowledge and work together toward common goals to achieve success in their everyday activities? Do people demonstrate trust, creativity, and patience when working together as unexpected events occur?

As with the other dimensions that make up the PTM, what people say they do may not necessarily be true representations of their underlying values, beliefs, and assumptions. Virtually every organization on the planet has published mission and purpose statements with high sounding language that sounds noble and worthy. Argyris and Schön [17, 30] explained the difference between espoused theories (what we say we do) and theories in use (what we actually do) and the difference is all too common. Many times executives or employees are not aware of the apparent disconnect. Unfortunately, we have seen, and I suspect many readers of this chapter have seen, executives and rank and file employees give lip service to the noble statements then take actions that are diametrically opposed to the stated mission or purpose. Employees will rarely confront executives to make them aware of the apparent disconnect. Employees simply conclude that the executive is either a liar or stupid. Either way employees are left to develop their own sense of purpose that many times is NOT what the organization wants.

Similar dynamics emerge with relationships that become toxic, inappropriate, or abusive and senior executives are unaware until a scandal emerges, and HR gets involved … or worse… the media. Collaboration breaks down and becomes ineffective for an infinite number of reasons like ego, knowledge hoarding, and narcissism and executives wonder "why can't we get things done"? We have observed these and many other interferences that infect an organization like a virus that prevents the power of people from being harnessed. Most of the time executives know or sense that "something isn't right" but they have no idea what or where to begin to make improvements.

5.7 Can anything be done … and if so… what?

We contend that something can and should be done if organizations expect to be successful in the VUCA 21st Century. Readers should have noticed that the definitions for the dimensions of success, culture, leadership, systems, people, and the system drivers are phrased as questions rather than statements. This is done for a reason. The reason is that each largely "unconscious and rarely discussable" dimension has many interpretations that change as the context changes. We want readers and participants in the diagnostic to reflect on how they would answer the question in the context of their specific organization and try to assess the intensity or strength of the perceptions. Armed with observations and data gathered from 220 organizations in 2017, we can identify patterns that differentiate top tier organizations from bottom tier organizations. We gathered data using our statistically validated and reliable diagnostic instrument designed to assess the intensity of participants perceptions of the various dimensions within their organizations then converted the data to a 100-point scale which provides a useful visualization of the temperature (intensity) of the dimension.

Figure 5 offers insight into differences between top and bottom tier companies. What we see are significant separation in scores with the lowest top tier score (focus, 67) is greater than the highest score for bottom tier companies (systems, 58). Additionally, top tier companies have created environment or cultures where people have freedom of choice and collaborate effectively while bottom tier companies are weakest in these areas.

Figure 5 also shows that bottom tier companies have cultures that emphasize systems and leadership while top tier companies show leadership and systems toward to bottom. This pattern suggests that bottom tier companies tend to have cultures that emphasize command and control while top tier companies have cultures that take advantage of the power of people. We contend that success in the

	Bottom Tier		Middle Tier		Top Tier	
1	Systems	58	Trust	68	Choice	79
4	Leadership	57	Choice	66	Trust	77
5	Awareness	57	Purpose	64	Collaboration	76
6	Trust	56	Culture	64	Relationships	75
7	Relationships	55	Relationships	64	Culture	74
8	Culture	53	Focus	63	Purpose	73
9	Purpose	51	Leadership	62	Awareness	73
10	Choice	50	Awareness	62	Leadership	72
11	Focus	50	Systems	61	Systems	68
12	Collaboration	48	Collaboration	58	Focus	67

Figure 5.
Comparison of top and bottom tier companies.

21st Century depends on creating a culture and environment where people share their tacit knowledge and collaborate in ways that give organizations a competitive advantage. Also, notice that focus is toward the bottom of both top and bottom tier organizations which leads us to believe that Peter Drucker was right when he observed that "So much of what we call management consists of making it difficult for people to work". Even top companies over manage people and inadvertently introduce interferences that prevent people from attaining a state of flow.

Now that we are aware of these patterns of "unconscious and rarely discussable" dimensions that drive the PTM system, can anything be done to change the perceptions and improve the organization's chance for success? We believe that taking a diagnostic approach to changing the culture and underlying beliefs and shared assumptions that drive success is the key.

Members of our team have been senior executives in the past and spent large sums of money and effort on various initiatives purportedly targeted at changing the environment, or performance, or leadership effectiveness, etc. The result has been, as it is in most organizations, a continuous stream of initiatives that yield limited results, if any. Most organizations employ the "flavor of the month" strategy. Nobody would return to a doctor who started prescribing drugs before listening to your heart, taking your blood pressure, etc. to diagnose the physical problem you are having. Yet, in business, executives do exactly that by trying this, then that, then something else hoping that something will yield results. Typically, the only winners in this strategy are the highly compensated consultants. We suggest that taking a diagnostic approach based on using clinically (or in this statistically) proven assessment instruments will allow the executives to target root causes of unseen and previously unknown interferences that prevent people from maximizing their potential. Instead of patching the problems of the organization with band aids, executives can gain insight into many "unconscious and rarely discussable" beliefs and assumption then initiate actions to address the root problem instead of just stopping the bleeding. In many cases, executives would be more successful in the long run by taking time, maybe a year, to establish trust or engage in deep dialogue with people to seek alignment and common purpose BEFORE launching into some dramatic change initiative. However, little progress can be made until the executives first become aware of hidden interferences and gain insight into the invisible dynamics that are interfering with success. Once executives become aware of what is going on, they can take a comprehensive approach targeting the systems, leadership, AND culture. With investors and stakeholders demanding annual and quarterly results, time is not on the side of the executives. Executives cannot, and should not, blindly try this or that and hope for the best. This strategy would not work on the athletic field but sadly it is the approach that most executives take mostly because there are few alternatives.... Until now.

6. Conclusion: what have we learned?

So, you have suffered through numerous pages of academic research and psychobabble, but have you learned anything that makes you think or question the status quo? We hope the answer is, yes. We hope we made a compelling case for evaluating organizational culture as part of an inextricable interconnected system that drives organizational success. There are many approaches that focus on one or the other key element for organizational success. Six-sigma, lean, Great Places to Work, and leadership training among many others are popular approaches. We contend that they typically fall short because they do not address the organization as a whole. The statistics support this assertion because the vast majority of change initiatives fail to deliver results that meet expectations. We believe that part of the reason is that an organization is a complex and dynamic system so that executives must consider more than just productivity or leadership or culture to bring about permanent change. After nearly two decades of study and observation, we have developed a model that, we believe, touches on the key elements needed for success in the modern world. The Performance Triangle Model is a visual representation of a dynamic system with key focal points in systems, leadership, and culture that is powered by people who have a shared sense of purpose, who have healthy relationships, and who collaborate effectively. Unfortunately, in many organizations "unconscious and rarely discussable" beliefs, values, and shared assumption interfere with the ability of people to attain a state of "flow" that prevents people and the organization from reaching its full potential.

Theories and models are great but ... SO WHAT! What is the value if the theory or model cannot be used to help executives actually make significant change? As former executives, we have focused our efforts on developing a methodology and tools to help executives bring about permanent change in their organizations. We reject the "flavor of the month" approach and propose a diagnostic approach to changing the culture and the organization as a whole. In a VUCA world where both internal and external environments change at a blinding pace, executives do not have the luxury of experimenting and hoping for the best. Organizational success in the 21st Century depends on the ability of organizations to adapt and change .... QUICKLY! We are all familiar with the 5 Why technique to get to the root cause of problems. The key is in asking the "right" questions then taking targeted action after gaining insight into these unseen or unspoken perceptions that abound in the organization.

Figure 6 displays the results from the 18 executives in the sample discussed in Section 4.3 used to validate the diagnostic instrument formatted as a leadership scorecard. Introspective dialogue to answer the questions and understand the underlying causes can help executives be more agile, responsive, effective, and most important... timely ... as they adapt the organization to ever evolving business environments. What unseen forces are interfering with the interactions between systems, leaders, and the culture that prevent the organization from being as successful as possible? This is the most basic question that executives need to ask and gain insight into to maximize success in a VUCA world.

The results in groups one and two (green) show that the leadership team has a firm understanding if what it takes to be successful. However, grouping four (yellow) suggests that systems and leadership are hindering their ability to be

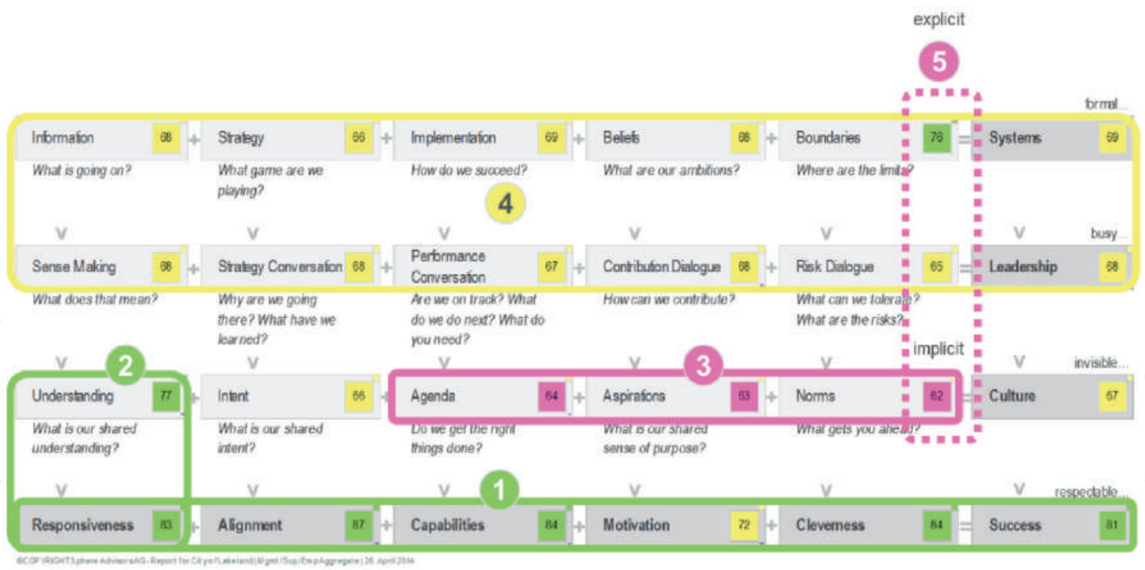

Figure 6.
The Leadership Scorecard - 15 Questions to Frame Dialogue.

successful. Also, armed with insight gained from several hundred organizations, we can see patterns that tell a story. In this case, the green 76 for boundaries says that these leaders believe they have appropriate rules and procedures that are well understood. However, the red scores in grouping three (red) for agenda, aspirations, and norms indicates that they have differing personal goals and objectives and that it is acceptable to "bend the rules" to advance a career. This "unconscious and rarely discussable" dimension of the culture clearly introduces interferences preventing optimal success. Executives need an assessment tool that quantifies previously "unconscious and rarely discussable" dimensions within their organizations. Then they need to have honest and sometimes uncomfortable dialogue followed by actions to fix the underlying or root causes of interferences preventing organizational success. We believe that a diagnostic approach using a statistically valid and reliable assessment instrument of key elements of organizational success can provide necessary insight to executives to target the root cause of interferences and make permanent changes.

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References

[1] Schein, E. Organizational Culture and Leadership, San Francisco: Jossey-Bass;1985.

[2] Hofstede, G, Neuijen, B, Ohayv, D, Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases, Administrative Science Quarterly, 1990;35; 286-316.

[3] Nold. H, Hagelthorn, A. Investigating Business and National Culture during Due-Diligence and its Impact on Multi-National Ventures, Organizational Cultures: An International Journal, 2016:16(2): 1-19. http://ijmoc.cgpublisher.com/product/pub.258/prod.90

[4] Peters, T, Waterman, R. In Search of Excellence, New York, NY: Random House; 1982.

[5] Peters, T, Austin, N. A Passion for Excellence, New York, NY: Random House; 1985

[6] Ilieş, L, Metz, D. The Link between Organizational Culture and Organizational Performance - a Literature Review. Managerial Challenges of the Contemporary Society, 2017;*10*(1): 35-40. Retrieved from https://search-ebscohost-com.contentproxy.phoenix.edu/login.aspx?direct=true&db=bth&AN=128134886&site=ehost-live&scope=site

[7] Taylor, J. Organizational Culture and the Paradox of Performance Management. Public Performance & Management Review, 2014;38(1), 7-22. https://doi-org.contentproxy.phoenix.edu/10.2753/PMR1530-9576380101

[8] Sirikrai, S. Measurement of Organizational Culture: A Literature Review, 2006. Available from: www.jba.tbs.tu.ac.th/files/Jba109/Article/JBA109Sajee.pdf

[9] Nold, H. Linking knowledge processes with firm performance: Organizational culture. Journal of Intellectual Capital, 2012;13(1): 16-38. https://doi.org/10.1108/14691931211196196

[10] Whalen, T. B. Utilizing the social transaction theory of social ontology to understand organizational culture change. Journal of Business & Economics Research (Online), 2014;12(1): 37-n/a. Retrieved from https://search-proquest-com.contentproxy.phoenix.edu/docview/1477975247?accountid=35812

[11] Walonick, D. General Systems Theory (essay). 1993. https://statpac.org/walonick/systems-theory.htm

[12] von Bertalanffy, L. General System Theory: Foundations, Development, Applications, New York: George Braziller. 1968.

[13] McNeill, D, Freiberger. Fuzzy Logic. New York, NY: Simon & Schuster. 1993.

[14] Kuhn, A. The Logic of Social Systems. San Francisco, CA: Jossey-Bass. 1974.

[15] Michel, L. The performance triangle: diagnostic mentoring to manage organizations and people for superior performance in turbulent times, London, UK: LID Publishing Ltd. 2013.

[16] Nold, H, Michel, L. The Performance Triangle: A Model for Corporate Agility, Leadership and Organizational Development Journal, 2016;37(3):341-356. DOI: http://dx.doi.org/10.1108/LODJ-07-2014-0123

[17] Argyris, C, Schön, D. Organizational learning: A theory of action perspective, Reading, Mass: Addison Wesley. 1978.

[18] Nold, H, Anzengruber, J, Woelfle, M. Michel, L. Organizational agility – Testing, Validity, and Reliability of a Diagnostic Instrument, Journal of Organizational Psychology, 2018;18(3): 104-117.

[19] Davenport, T, Prusak, L. Working knowledge: How organizations manage what they know, Boston, MA: Harvard Business School Press. 1998.

[20] Drucker, P. Landmarks of Tomorrow, New York, NY: Harper & Row. 1957.

[21] Mládková, L. Management of knowledge workers, Economics & Management, 2011;16:826-831.

[22] Lin, C, Chiu, H, Chu, P. Agility index in the supply chain, International Journal of Production Economics, 2006;100(2):285-299.

[23] Sherehiy, B. Relationships between agility strategy, work organization and workforce agility, University of Louisville. 2008.

[24] Tsourveloudis, N, Valvanis, K. On the measurement of enterprise agility, Journal of Intelligent and Robotic Systems, 2002;33(3):329-342.

[25] Verdú, A, Gómez-Gras, J. Measuring the organizational responsiveness through managerial flexibility, Journal of Organizational Change Management, 2009;22(6):668-690.

[26] Charbonnier-voirin, A. The development and partial testing of the psychometric properties of a measurement scale of organizational agility, M@n@gement, 2011;14(2): 120-154.

[27] Roussel, P. Rémunération, motivation et satisfaction au travail, Paris, France: Econimica. 1996.

[28] Roussel, P. Méthodes de développement d'échelles pour questionnaires d'enquête, In P. Roussel & F. Wacheux (Eds.). Management des Ressources Humaines: Méthods de recherche en sciences humaines et sociales (pp. 245-276), De Boeck: Burxells. 2005.

[29] Csikszentmihalyi, M. Finding flow, Psychology Today, 1997;30:46-48.

[30] Argyris, C, Schön, D. Theory in practice: Increasing professional effectiveness, San Francisco: Jossey-Bass. 1974.

Chapter

Internationalization and Turkish Manufacturing Firm Performance – Does Managerial Personality Matter?

Phan Anh Tu, Le Khuong Ninh and Do Thuy Huong

Abstract

This study investigates the impact of the managers' experience and gender on the relationship between internationalization and business performance of manufacturing firms in Turkey. Based on a dataset collected by the World Bank, including 263 manufacturing enterprises in Turkey, we find that more well-experienced managers can positively improve the relationship between internationalization and firm performance. In contrast, this relationship will be reduced when the business has a female executive manager. This result adds to the empirical evidence and reinforces the theory of internationalization, especially in transition economies. The research implications are to help policymakers promulgate appropriate policies to support and accelerate the internationalization of businesses.

Keywords: Internationalization, experience, gender, performance, Turkey

1. Introduction

Internationalization and efficiency of business operations have been a matter of great concern in international business by scholars around the world for more than five decades. When expanding operations to global markets, companies have growth opportunities, accumulate knowledge from foreign markets, and help businesses reduce production costs and incur costs due to international environmental uncertainty [1]. However, internationalization also harms firm performance. For example, businesses will face risks and may face failure when expanding internationally [2].

Although there have been many previous empirical studies on internationalization and business performance, the empirical results are often inconsistent due to differences in analytical methods and research. And sometimes contradictions lead to mixed conclusions. Most of these studies are conducted in countries with developed economies, and the research subjects are multinational companies. While many other empirical studies have found a linear relationship between internationalization and business performance of multinationals in the world and Taiwan [3, 4] and including the positive (negative) impact of internationalization on the business performance of emerging market firms [5] and the U.S. market [6], Riahi-Belkaoui [7] is one of the rare scholars who finds a non-linear relationship between the degree of internationalization and the business performance of multinational companies in the large-scale economy (USA).

The role of moderating variables in the relationship between internationalization and business performance has attracted interest, although quite rare since 2006, such as the study by Hsu et al. (two thousand and thirteen). Furthermore, research on the manager's role is scarce.

According to the Uppsala model, Vahlne and Johanson [8] pointed out that managerial competence is an essential key in achieving growth and that managers play a vital role in making decisions on doing business in foreign markets. Upper-echelons theory in organizations has shown that to manage complexity from international markets and ambiguity, the manager's role in decision-making when processing information is vital. Adequate confidence is necessary [9]. Therefore, the study's question is whether or not the positive effect of internationalization on business performance will be enhanced or decreased when moderating the managers' characteristics.

This research will contribute to the literature review of internationalization by threefold: (1) provide additional empirical evidence for the theory of internationalization; (2) highlight with a vital role of personal traits of the managers of the firms; (3) provide a particular research context, i.e., manufacturing enterprises in transition economies.

2. Literature review

Internationalization is the process by which businesses expand their business to foreign markets. Internationalization is an effective growth strategy for businesses when the domestic market is limited; internationalization helps companies grow their economic scope and scale, and at the same time, helps companies reduce input costs [10]. According to researchers, internationalization is also understood as the process of firms increasing their participation in foreign markets and making strategic decisions to improve international sales [11]. When businesses participate in overseas markets, there will be many benefits, such as increasing knowledge about foreign markets, enhancing competitiveness through gaining practical experience, and exploiting local strategic assets [12].

Expanding business operations to a new market also creates many challenges and increases businesses' costs, particularly regarding the legal liability of "foreigners" when doing business in another market [13]. Besides, to be successful in the international market, companies must understand the market's cultural characteristics to make product innovations suitable for the market. Therefore, for a business to be successful and limit the risks of uncertainty, the complexity and constant volatility of foreign markets depend significantly on the leading executive role.

The business performance shows the firm's ability to use its resources to achieve its goals. Experimental results in the world have also demonstrated that the relationship between internationalization and business performance of enterprises in the period from 1998 to the first three months of 2020 is non-linear (shape The U, the inverted U, the S, and the W), are sometimes linear (forward, inverse) and mixed relationship.

Internationalization is also explained in the direction of considering the methods of entering the business's international market, more clarification in the Uppsala model. The Uppsala model, also known as the "internationalization process" theory, was developed from Uppsala University by Johanson and Vahlne

[14]. This model explains that the internationalization of a business can be divided into four stages of development: (1) no regular exports, (2) exports through independent representatives, (3) sales branches in foreign markets, and (4) production in international markets. Over the past four decades (from 1977 to 2017), Johanson and Vahlne have repeatedly developed the Uppsala model. The 2017 Uppsala model is their newest model, and the management ability is considered a significant bottleneck in achieving growth [8].

We argue that internationalization is a complicated business strategy and is tied to the business managers' decision to do business. A business manager is a unit of analysis. Upper-Echelon theory refers to groups of people with high social status [15] or top managers of the business, such as CEOs, senior managers, or top management team (board). Hambrick and Mason [16] argued that firm performance is influenced by factors related to the manager's characteristics; personal opinions change the manager's perceptions, and these affect the choice of a firm's business strategy [15]. Many studies use the Upper-Echelon theory to explain a firm's internationalization strategy related to the traits of managers such as experience [17], education level, age [9], gender [18].

Managerial experience. Management experience is measured by the number of years that the manager is working in the current position. As the number of years working increases also means that the number of managers' experience increases, knowledge accumulation during the working time will create experience and motivation for international business expansion [14]. A manager with knowledge accumulated increasingly after years of working in a leadership position creates valuable experiences in dealing with international markets' complexities and uncertainties while overcoming the psychic distance associated with doing business in global markets [19]. These experiences values motivate them to develop strategies and expand their business to new international markets [20]. At the same time, managers' experience also directly affects firms' business results in global markets [21]. Along with the expertise, knowledge of foreign cultures, and the selection of managers' business methods will help businesses eliminate barriers of cultural differences through innovation and innovation product policies and brand promotion to suit each country's culture.

Hypothesis H_1: Managerial experience will positively moderate the relationship between the degree of internationalization and firm performance.

Managers' gender. Turkey is a country with a prosperous transition economy. The Turkish government is always supportive of corporate business; it is trying to reinforce Islamic values, which could hinder women's advancement in society [22]. Some studies show that Men and Women in Turkey consider women as house workers, suitable for the role of motherhood [23]. Men are represented in most of the leadership roles in Turkey [24], and women are not represented in the senior leadership ranks or the committee director of a business [25].

The empirical studies have shown that male managers bring more benefits to businesses than women [26]. Firms headed by women do not have the majority of the financial resources led by men [27]. Since internationalization is a cost-effective strategy to maintain international relations and strengthen its position in the market, a business with a South manager is more suitable to engage in the process. Next, male managers face less discriminatory barriers and barriers to entry into international markets than Female managers [28]. Simultaneously, ideological stereotypes against women also create doubts from new clients about women's performance and their ability to deliver quality products to international markets on time [29]. All of these make such a significant obstacle to the internationalization process if the manager is a female.

Hypothesis H_2: The female manager will negatively moderate the relationship between internationalization and firm performance (**Figure 1**).

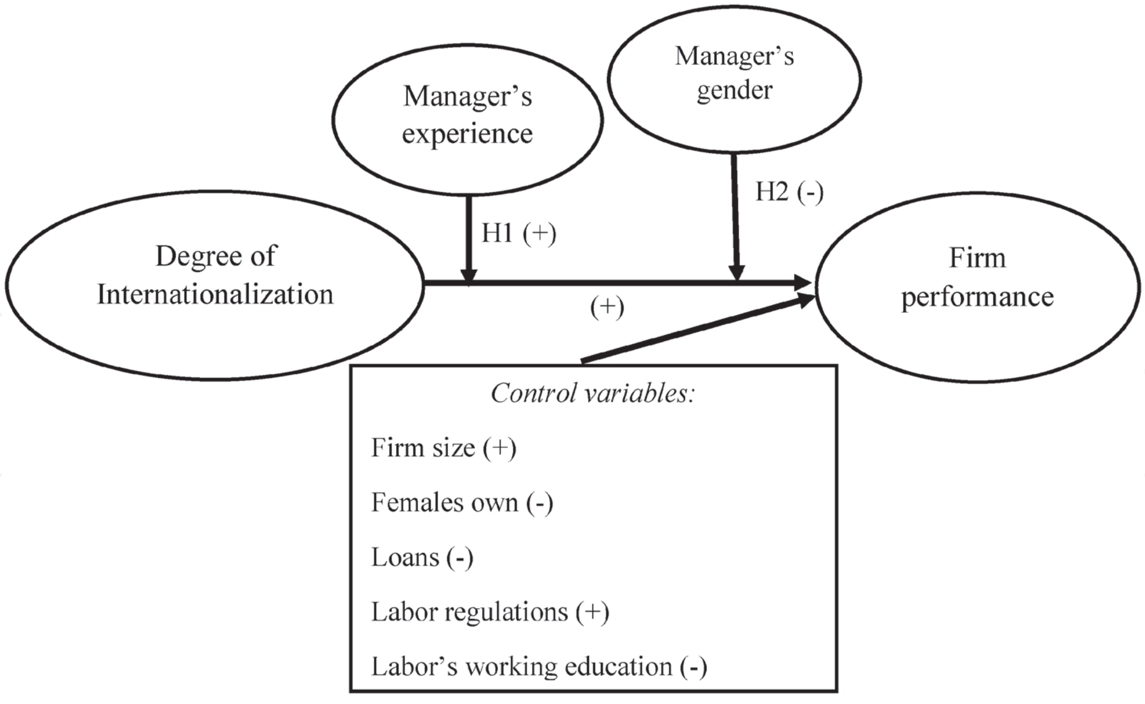

Figure 1.
Conceptual model.

3. Internationalization and Firm Performance in Turkey

Turkey is located in a favourable geographical position for economic development. This is the intersection between two continents (Asia and Europe, most of the territory are in Asia), connecting the Black Sea and the Aegean Sea, so it is easy to cooperate and develop trade with other countries. Thanks to the implementation of drastic measures to reform the economy towards industrialization, the Turkish economy has a huge difference before and after 1980. In 1980, the Turkish economy was moving to the market economy stage. The economic development policy at this time is to industrialize its production towards export. According to the statistics of the Turkish Statistical Institute (wwwdata.tuik.gov.tr), the Gross Domestic Product of Turkey also has a significant increase; GDP in 1980 reached 69 billion USD, 151 billion USD in 1990, 273 billion USD in 2000 and most recently 766.51 billion USD in 2019. It is the strong development since the economic reforms, Turkey now the 6th largest economy in Europe after Germany, the UK, France, Italy, Spain and the 16th largest in the world (according to International Monetary Fund, www.imf.org) and also a member of the G20 (Group major economies).

The current Turkish economy is mainly based on industry and services, develop towards a free market. According to an assessment of the Organization for Economic Cooperation and Development (www.oecd.org), in 2017, Turkey was the country with the third growth rate after China and India; in 2011–2017, the average GDP growth rate reached 6.7%. Industry, service and agriculture accounted for 26%, 64% and 10% respectively in 2013 in the economic structure. Production output has been considered the main driver of Turkish economic growth since the 1960s, including processing and manufacturing industries such as iron and steel production, oil refining. Therefore, one of the most critical sectors of the Turkish economy is the manufacturing and processing industry. In 2010, the Turkish manufacturing and processing industry accounted for 53.4% of the total export value. According to the Turkish Ministry of Industry and Technology (www.sanayi.gov.tr), over the past

20 years, the Turkish manufacturing and processing industry has also contributed a part major in GDP from 15–20%. In 2018, this sector's share of GDP was 19.1%.

According to the Turkish Institute of Statistics, the number of enterprises operating in the manufacturing and processing sectors was 3,221,000. Small and medium enterprises (SMEs) account for 99.8% of all enterprises, with 72.4% of jobs created in 2019. The majority of SMEs are in the commercial sector, with 36.3% of firms operating in the sales sector. Wholesale and retail; 14.4% of businesses in transportation and storage; 12.4% are manufacturing and processing industries. Also, 91.4% of the export turnover of SMEs is the product of manufacturing.

According to the World Bank's survey data, the current internationalization situation through direct-and-indirect exports of manufacturing enterprises in Turkey has significantly decreased. Specifically, in 2008 there were only 320 enterprises over 854 enterprises (accounting for 37.47%) having export activities. In 2013 and 2019, there were 282 exporting firms out of 1055 firms (accounting for 26.73%) and 207 exporting firms over 1036 enterprises (accounting for 20.18%). Many businesses have not engaged in export activities, accounting for more than 87.2% (2175 exporters/2495 processing and manufacturing enterprises). This shows that the difference between enterprises that have export activities and do not have export activities is still quite significant. The decreasing trend in Turkish processing and manufacturing enterprises' export activities may stem from the domestic and international barriers that businesses will face when entering the market.

Barriers for internationalization entry. According to a survey by the World Bank on Turkish enterprises' environment and business performance, many obstacles hinder businesses' internationalization in this country. First, the level of corruption varies considerably between regions in Turkey. The Bribery Depth Index shows that the percentage of 6 legal transactions and interest transactions related to asking for bribes for an average of 1 business in Turkey was 6% in 2008 and 3% in 2013. However, this Bribery Depth index varies significantly from region to region: namely, in East and Southeast Anatolia and the Aegean, it is three times higher than that of other Turkey areas. Consequently, the degree of corruption could exert tremendous financial and cost pressures on small Turkish firms and have limited financial capacity; this itself can interfere with enterprises' export process.

Second, the reliability of power supplies in Turkey is weak. Many Turkish businesses report power outages that account for 5% of their annual sales. Furthermore, there are notable geographical differences. In the Marmara region, power outage losses are only 2% compared with 12% in East and Southeast Anatolia. An increase in the proportion of businesses that own or share generators is also a sign of the country's inadequate electricity supply. Next, companies in Turkey view the tax rate as the biggest obstacle to their current operations, after factors of competition and political instability. According to the World Bank, 455/854 enterprises (accounting for 46.72%) consider the tax rate a factor hindering enterprises' current business activities in 2013 and 2019. Namely, there were 342/1055 enterprises (accounting for 67.58%), and 301/1036 enterprises (accounting for 70.95%) mentioned this factor as a barrier.

Fourth, international trade participation allows businesses to expand, raise business performance standards, import raw materials at lower costs, and access up-to-date technology. However, the transaction also requires firms to deal with customs regulations, and often firms are required to have an export and import license. Delays in export and import customs procedures add costs to the business, disrupt production, and hinder goods' supplies. Finally, most Turkish enterprises are small and medium-sized, so they often face difficulties in accessing finance. This can cause obstacles in the process of expanding operations and reduce the efficiency of business operations. Most SMEs have low equity capital and often have trouble getting bank loans. In Turkey, only 40% of firms had a bank loan or credit line in 2013 compared with 57% in 2008, the use of banking services had a downward trend among firms. The proportion of financial investment financed from banks has decreased from 38% in 2008 to 17% in 2013, and even in 2019.

The Purchasing Managers Index (PMI) measures the economic "health" or efficiency of the manufacturing industry, with data taken from a survey of 400 processing enterprises. Create. The PMI index also shows the level of "excitement" of purchases in the manufacturing sector in 1 month. The monthly changes will reflect the growth or weakening of the manufacturing industry. Index of Industrial Production (IIP) is an index that determines industrial production's growth rate based on production volume. Turkey Manufacturing PMI-Purchasing Managers Index (Turkey Manufacturing PMI-Purchasing Managers Index) is also known as purchasing power management index; According to Markit Economics, this index in Turkey averaged 50.05 points from 2011 to 2020, reaching a peak of 55.70 points (January 2018). This PMI score of>50 indicates that the Turkish economy tends to develop positively, and manufacturing expands production activities. According to the Turkish Institute of Statistics, industrial production of Turkish processing and manufacturing enterprises in the 2008–2018 generally tended to increase gradually, reaching from 124 USD 5 billion (2008) to USD 146.1 billion (2018). This shows that the Turkish manufacturing and processing industry is growing with increasing production over the years and accounting for a relatively high GDP proportion, at the highest level of 19.1% (2018). The lowest is 15.1% (2010).

The two indicators mentioned above have shown that the Turkish economy is developing positively, and the business activities of enterprises in the manufacturing and manufacturing sectors in the domestic market are increasingly expanding and more developed. This also shows that these enterprises' business potential in overseas markets through export is a vast business turnover. Revenue is one of the factors that reflect the business results of an enterprise. According to the Turkish Institute of Statistics, in the period from 2007 to 2018, enterprises' revenue in the Turkish manufacturing and processing sector has many fluctuations, mainly tends to increase gradually and increase from 138.10 thousand billion euros (2007) to 241.20 trillion euros (2018), an increase of about 103.1 trillion euros. According to the Turkish Institute of Statistics, the percentage change in average annual turnover of Turkish manufacturing and manufacturing enterprises also fluctuates with the lowest percentage change of 6.9% (in 2016). The highest is 30.27% (in 2018). In general, the percentage change in annual revenue of businesses is positive.

4. Trait Characteristics of the managers of the firms in Turkey

According to the World Bank, the proportion of women's participation in the private sector as owners and employees has decreased significantly since 2008, leading to Turkey suffering from other countries with income levels. In 2013, only 5% of businesses were managed by 1 senior female leader compared with 12% in 2008. The same trend is observed for women-owned businesses, from 41% per year. 2008 decreased to 25% in 2013. The proportion of women among all enterprise workers has also significantly reduced from 25% in 2008 to 22% in 2013. The difference between the proportion of Women and Men in Turkish manufacturing is enormous. This can be traced back to the country's socio-cultural context. More than 98% of the population are Muslims, and women's business role is less important than staying at home and taking care of the house, family, and children.

As a result, most senior leaders in manufacturing and manufacturing in Turkey are men because they have more advantages than women; men have a higher education level than women. Men face fewer business barriers than women at work. A leader's experience is often measured through years of experience in leadership positions in the manufacturing industry. Leadership experience is essential in the business expansion to international markets. According to the World Bank, senior leaders in the manufacturing and manufacturing sector have a relatively high number of years of experience, focusing mainly on 20–30 years of experience. Some businesses are also run by leaders with up to 70 years of experience. Also, many companies are managed by leaders with low years of experience from 2 to 5 years. Differences in the years of leadership experience in companies will also affect domestic and international business strategies, bringing different business operations results and between businesses. Therefore, along with the leader's gender, the leader's experience is also an important factor affecting the company's business process.

5. Data and Research method

5.1 Data

This study uses secondary data sources on Turkey surveyed by the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the World Bank (W.B.) on the business environment and business performance of 4,159 enterprises. In this study, the panel data set are firms are operating in the manufacturing and manufacturing sector of Turkey in 3 survey periods in 2018, January 2013–December 2014 and September 9. 2018 - May 2019. The final sample used for analysis has 789 observations, including 263 processing and manufacturing enterprises.

5.2 Estimation model

The regression method with Feasible Generalized Least Squares (FGLS) is used to estimate the moderating effects on the relationship between the independent and dependent variables. The multicollinearity phenomenon is not a concern in this study [30] because the correlation coefficients in the Pearson correlation matrix of the variables are all less than 0.8, and the VIF index is below the "threshold" value 10.0. To choose between REM and FEM models, we conducted a Hausman test. Accordingly, with Prob> chi2 = 0.0714 and greater than P-value = 0.05 (accept H0 hypothesis), the REM model is more suitable than the FEM model. Then, the Lagrange test is used to check the heteroskedasticity of the REM model. As a result, it obtains Prob> chibar2 = 0.0000 smaller than P-value = 0.05, so rejecting hypothesis H0 (homogeneous variance), the model exists the heteroscedasticity phenomena with significance level 0.05. To cope with this issue, we use the Feasible Generalized Least Squares (FGLS) method as a method to correct this issue and thus increase the effectiveness of the estimation model.

The estimation model is constructed as follows:

$$\begin{aligned} ROS_{it} = {} & \beta_0 + \beta_1 doi_{it} + \beta_2 firmsize_{it} + \beta_3 femalesown_{it} + \beta_4 applyloans_{it} \\ & + \beta_5 laborregu_{it} + \beta_6 eduworkit + \beta_7 expertm_{it} + \beta_8 gendertmit \\ & + \beta_9 (doiex)_{it} + \beta_{10} (doige)_{it} + \varepsilon_{it} \end{aligned} \tag{1}$$

Dependent variable: ROSit is the Return on sales of Turkish processing and manufacturing firms' business performance at time t.

Independent variable: doiit: a degree of internationalization of the firms.

Control variable: firmsizeit, femalesownit:, applyloansit:,laborreguit: labor regulation, eduworkit: labor's education.

Moderator variables: extmit: managerial experience, gendertmit: lmanager gender.

Interaction terms:

doiexi: the interaction between the degree of internationalization and management experience (measured by multiplying the doi variable and the extm variable),

doigeit: the interaction between the degree of internationalization and the gender of the leader (measured by multiplying the doi variable and the variable gendertm together).

Define	Symbol	Measure	Expected
Dependent variable			
Return on Sales	ROS	The rate of profit on total sales [31]	
Independent variables			
Degree of internationalization	doi	Percentage of export revenue over total revenue: $\frac{\%directexportsales + indirectexportrevenue}{totalrevenue}$ (2) ([31]; [32])	(−)
Moderator variables			
Managerial experience	expertm	Years of experience = years of managers in the manufacturing and processing industry [33]	(+)
Manager gender	gendertm	Manager's gender, 1 = Female, 0 = Male [34]	(+)
Control variables			
Firm size	firm size	Number of employees in the firms 0 is small and medium-sized enterprise (> = 5 to <= 99 employees), 1 is a large-scale enterprise (> = 100 people) [35]	(+)
Females business owners	femalesown	Whether women own the business or not Dummy variable (1 = yes, 0 = no) [26]	(−)
Loans	applyloans	Business with or without a loan Dummy variable (1 = Yes, 0 = no) ([36]; [37])	(−)
Labor regulations	laborregu	Likert-5 levels: "To what extent, labor regulations are an obstacle to business operations." 0: no obstacles 4: extremely obstacles [38, 39]	(+)
Education level of labor	eduwork	Likert-5 levels: "At what level, the education level of labor is an obstacle to the operation of the business." 0: no obstacles till 4: extremely obstacle [38]	(−)

Table 1.
Descriptions of variables.

#	Variable name	Symbol		Number of observations	Mean	Standard deviation	Min	Max
1	Return on Sales (ROS) (%)	ros	789	43,412	34,278	−199,94	100	2
Degree of Internationalization (DOI)	doi	789	0,293	0,368	0	100	3	Managerial experience
expertm	789	23,099	12,047	2	70	4	Manager's gender	gendertm
789	0,074	0,261	0	1	5	Firm size	firmsize	789
0,274	0,446	0	1	6	Females own businesses	femalesown	789	0,313
0,464	0	1	7	Loans	applyloans	789	0,398	0,490
0	1	8	Labor regulation	laborregu	789	1,137	1,280	0
4	9	Education level of labor	eduwork	789	1,572	1,418	0	4
Source: World Bank Enterprises Survey (2019).								

Table 2.
Descriptive statistics.

β0: intercept (constant)

βi: are the coefficients representing the marginal impact of factor i in the model,

i = 1,...N, where N is the number of firms in the sample; t = 1,... T, where T is the research period.

and εit is the random error of the model (**Table 1**).

6. Results and discussion

Table 2 shows the results of the descriptive statistics of the variables in the research model. The average value of the return on sales of the business (ROS) is 43,412%, the maximum value is 100%, and the smallest amount is −1994.94%. The degree of internationalization, on average, reaches 0.293%, with the highest value being 100% and the lowest 0%. Moreover, the average of the managers' experience is about 23 years. Meanwhile, most of the managers are male rather than female (see **Table 2**).

Next, **Table 3** presents the correlation matrix between pairs of variables in the model, **Table 4** presents the regression results of 3 models Pooled OLS, REM, and FEM. Regression results with FGLS estimates are shown in **Table 5**.

Model 5 in **Table 5** includes all the main variables in the research model, the value Prob> chi2 = 0.000 shows the suitability of the model with actual data at 99% confidence level. All variables in model 5 are statistically significant, except for the variable of managerial experience (β7 = −0.096). There are 4 variables positively correlated with the return on sale (ROS) including: firm size (β1 = 3,443), labor regulations (β4 = 3,401), manager's gender (β8 = 9,963), the interaction between the degree of internationalization and managerial experience (β7 = 0.476). They are statistically significant at 5%, 0.1%, 5%, and 1%. Nevertheless, the remaining variables have a negatively correlated with the return on sales (ROS): business owner is Female (β2 = −6,888), loan (β3 = −9,560), labor level (β5 = −2,245), the degree of internationalization (β6 = −9,588), the interaction between the degree of internationalization and the manager's gender (β10 = −21.21) and all have statistical significance at 0.1%, 5%, and 1% level.

According to model 5, there is a negative relationship between internationalization and firm performance, but it is insignificant. This connection is contrary to expectation. Internationalization is a risky process, and firms have to burden additional costs in which these costs exceed the benefits that the business achieves, leading to a decline in the firm performance. In the early internationalization stage, the costs incurred will also increase because firms often focus on market exploration, enhancing knowledge learning, and experience in international markets [14]. At the same time, companies have to deal with obstacles and cost barriers such as the cost of the liability of "foreigners" [13]; the costs of adapting to cultures and institutions in different countries [1]; corporate governance and administration costs [40]; shipping costs and tariffs [1].

Model 5 in **Table 5** shows the interaction of internationalization level and leader experience (variable doiex) positively correlated. This result implies that the relationship between the degree of internationalization and the firm's business performance is strengthened as the managers' years of working experience increase. Therefore, hypothesis H_1 has been accepted. Experience in management positions helps leaders gain knowledge and confidence in managing and managing businesses. Those things create the motivation for leaders to develop products and expand business activities to international markets; the manager's experience also assists them in coping with the complexities and uncertainties of global markets; and directly affects the business performance of firms in international markets.

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Variables	Mean	S.D	VIF	1	2	3	4	5	6	7	8	9
1. Return on Sales	43,412	34,278		1								
2. Degree of internationalization	0,293	0,368	5,03	−0,021 ns	1							
3. Managerial experience	23,099	12,047	1,68	0,011 ns	0,012 ns	1						
4. Manager's gender	0,074	0,261	2,05	−0,031 ns	0,078*	−0,069*	1					
5. Firm size	0,274	0,446	1,11	0,010 ns	0,257***	0,069*	0,012 ns	1				
6. Female business owner	0,313	0,464	1,16	−0,114**	0,119***	0,058 ns	0,312***	0,143***	1			
7. Loans	0,398	0,490	1,07	−0,165***	0,153***	0,033 ns	−0,011 ns	0,134***	0,104**	1		
8. Labor regulations	1,137	1,280	1,73	0,082*	−0,087*	−0,089*	0,027 ns	−0,032 ns	−0,087*	−0,121***	1	
9. Education level of labor	1,572	1,418	1,70	−0,012 ns	−0,048 ns	−0,024 ns	0,065*	0,037 ns	−0,047 ns	0,012 ns	0,628***	1

****$p < 0.001$.*
***$p < 0.01$.*
**$p < 0.05$ (ns) $p > 0.10$ (non-significant).*
The value in parentheses is the standard error.

Table 3.
Description of the statistics and correlation table ($n = 789$).

Variables	Return on sales: ROS		
	Pooled OLS	REM	FEM
Constant	50,51*** (4,011)	49,04*** (3,837)	43,60*** (4,547)
Control variables			
Firm size	2,913 ns (2,834)	3,057 ns (2,880)	4,514 ns (3,857)
Female business owner	−8,170** (3,138)	−7,529** (2,723)	−4,954 ns (3,201)
Loans	−10,19*** (2,665)	−9,378*** (2,513)	−6,213* (3.104)
Labor regulations	2,859* (1,188)	2,190 ns (1,225)	−0,0262 ns (1,533)
Education level of labor	−1,937* (0,984)	−1,251 ns (1,095)	0,864 ns (1,353)
Main effect			
Degree of internationalization	−12,78 ns (8,368)	−10,23 ns (7,167)	−1,285 ns (8,513)
Managerial experience	−0,117 ns (0,127)	−0,092 ns (0,126)	−0,016 ns (0,146)
Manager's gender	10,21 ns (5,860)	11,15 ns (6,400)	14,11 ns (7,428)
Moderator effect			
Degree of internationalization x Managerial experience	0,727* (0,316)	0,621* (0,279)	0,296 ns (0,323)
Degree of internationalization x manager's gender	−25,78 ns (13.998)	−28,43** (10,965)	−35,61** (12,880)
Number of observations	789	789	789
	F(10,778) = 5,04	Wald chi2 (10) = 41,86	F(10, 516) = 1,70
	Prob>F = 0,0000	Prob>chi2 = 0,0000	Prob > F = 0,0776
	R2 = 0.06221	R2 within = 0.0242	R2 within = 0,0319

$^{***}p < 0.001$.
$^{**}p < 0.01$.
$^{*}p < 0.05$, (n.s) $p > 0.1$ (non. significant).
The values in parentheses are standard errors.

Table 4.
Pooled OLS, REM, FEM models.

Also, managers can use their experience to interact with partners in foreign markets better, contribute to building trust and enhancing the reputation and image of the business in mind and thereby providing to the elimination of barriers of distance (cultural, social and geographical) in the process of expanding cross-border business activities.

Model 5 shows that the interaction between the degree of internationalization and the manager's gender is negatively correlated with firm performance. The hypothesis H_2 is hence supported. Hence, the relationship between the degree of internationalization and the firm's business performance will decline when the firm has a female manager, in contrast, a male manager will contribute to enhancing the positive effects of internationalization on the business performance. It can be explained that male managers are more successful than female leaders because, unlike women, men are not typically more focused on aspects such as risk reduction and risk aversion, and resilience, and higher risk tolerance [41].

Variables	**Return on sales: ROS**				
	Model 1	**Model 2**	**Model3**	**Model 4**	**Model 5**
Constant	48,93** (1,391)	47,73*** (2,104)	52,61*** (2,325)	47,72*** (2,077)	51,51*** (2,397)
Control variables					
Firm size	5,959*** (1,445)	5,647*** (1,501)	4,106* (1,632)	4,487** (1,556)	3,443* (1,691)
Female business owners	−6,749*** (1,349)	−6,616*** (1,461)	−6,614*** (1,533)	−6,106*** (1,537)	−6,888*** (1,666)
Loans	−10,22*** (1,256)	−9,354*** (1,502)	−8,897*** (1,523)	−9,901*** (1,544)	−9,560*** (1,613)
Labor regulation	3,460*** (0,643)	3,770*** (0,686)	3,835*** (0,686)	3,422*** (0.683)	3,401*** (0,728)
Education level of labor	−2,347*** (0,530)	−2,605*** (0,555)	−2,436*** (0,598)	−2,376*** (0,554)	−2,245*** (0,629)
Main effects					
Degree of internationalization		−1,534 ns (1,900)	−16,54*** (4,202)	1,792 ns (2,087)	−9,588* (4,632)
Managerial experience		0,064 ns (0,579)	−0,138 ns (0,077)	0,057 ns (0,058)	−0,096 ns (0,079)
Manager's gender		−0,933 ns (3,144)	−0,885 ns (2,855)	10,75* (4,981)	9,963* (4,899)
Moderator effects					
Degree of internationalization × Managerial experience			0,647*** (0,167)		0,476** (0,177)
Degree of internationalization × Manager's gender				−24,65*** (6,616)	−21,21** (6,837)
Number of observations	789	789	789	789	789
Wald chi2	191,24***	177,08***	178,64***	176,59***	149,12***

****p < 0.001.*
***p < 0.01.*
**p < 0.05, (ns) p > 0.10 (non. significant).*
The value in parentheses is standard error.

Table 5.
Feasible Generalized Least Squares (FGLS).

7. Conclusion

Internationalization plays a vital role as an increasingly necessary and valuable business strategy [42]. This strategy is even more relevant and essential for firms in a transition economy like Turkey. This study used Moderated Multiple Regression analysis (MMR) with the feasible general least-squares estimation (FGLS) method to find empirical evidence to support the hypotheses. Namely, the degree of internationalization has a more substantial positive influence on firm performance if the managers are males and have more managerial experience. The relationship between the degree of internationalization and firm performance may vary depending on the firms' managerial characteristics. Therefore, firms may carefully consider the managers' traits before deciding to expand the market in the global context.

The results show several important governance implications for corporate boards and managers who aspire to become senior managers in an international environment. First, to have a better performance, firms or executive boards of the firms may be better able to choose males and have much experience than females and have less experience operating the internationalization process. Second, female managers may better improve their international management experience to cope with additional transaction costs in foreign countries such as the "newness" and the "liability of foreignness."

This study goes without limitations. First, this result is limited to manufacturing firms, so that it is difficult to generalize to various business sectors. Second, the number of female managers may depend on a particular culture, region, and the whole country, but the data shows inadequate. Future research should extend the scope of research space and time (phases of internationalization); consider the managers' characteristics such as functional experience, education, age, and marital status, concurrent rights in the business, foreign language ability, and cultural contexts. Third, research in the future may pay attention to the influence of top managers' characteristics without considering how other corporate board members affect the relationship between the degree of internationalization and business performance. Finally, scholars may use diversified indices to measure firm performance.

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References

[1] Contractor, F. J., V. Kumar. & S. K. Kundu. (2007), 'Nature of the relationship between international expansion and performance: The case of emerging market firms', Journal of World Business, 42(4), 401-417

[2] Benito-Osorio, D., A. Colino., L. Á. Guerras-Martín & J. Á. Zúniga-Vicente (2016), 'The international diversification-performance link in Spain: Does firm size really matter?', International Business Review, 1248, 11

[3] Hsu, C.-C (2006), 'Inter-nationalization and performance: the S-curve hypothesis and product diversity effect', Multinational Business Review, 14(2), 29 - 46

[4] Lin, W.-T., Y. Liu. & K.-Y. Cheng (2011), 'The internationalization and performance of a firm: Moderating effect of a firm's behavior', Journal of International Management, 17, 83-95

[5] Cuervo-Cazurra, A., L. Ciravegna., M. Melgarejo. & L. Lopez (2018), 'Home country uncertainty and the inter-nationalization-performance relationship: Building an uncertainty management capability', Journal of World Business, https://doi.org/10.1016/j.jwb.2017.11.002

[6] Tashman, P., V. Marano. & J. Babin (2019), 'Firm-specific assets and the internationalization–performance relationship in the U.S. movie studio industry', International Business Review, 28, 785-795

[7] Riahi-Belkaoui, A (1998), 'The effects of the degree of internationalization on firm performance', International Business Review, 7, 315-321

[8] Vahlne, J.-E. & J. Johanson (2017), 'From internationalization to evolution: The Uppsala model at 40 years', Journal of International Business Studies. DOI:10.1057/s41267-017-0107-7

[9] Herrmann, P. & D. K. Datta (2005), 'Relationships between top management team characteristics and international diversification: An empirical investi-gation', British Journal of Management, 16(1), 69-78

[10] Dunning, J. H (1988), 'The eclectic paradigm of international production: A restatement and some possible extension', Journal of International Business Studies, 19(1), 1-32.

[11] George, G., J. Wiklund. & S. A. Zahra (2005), 'Ownership and the internationalization of small firms', Journal of Management, 31(2), 210-233

[12] Ghoshal, S. and C. A. Bartlett (1990), 'The multinational corporation as an interorganizational network', Academy of Management Review, 15(4), 603-625.

[13] Hymer, S (1976), *The international operations of national firms: A study of direct investment*, Boston, MA: MIT Press

[14] Johanson, J. & J.-E. Vahlne (1977), 'The internationalization process of the firm-a model of knowledged development and increasing foreign market commitments', Journal of International Business Studies, 23-32

[15] Hambrick, D. C (2007), 'Upper echelons theory: an update', Academy of Management Review, 32(2), 334-343.

[16] Hambrick, D. & P. A. Mason (1984), 'Upper echelons: The organization as a reflection of its top managers', Academy of Management Review, 9(2), 193-206

[17] Cavusgil, S., G. Kinight. & J. Riesenberger (2012), *International Business*, Pearson Education, NJ.

[18] Ho, S. S. M., A. Y. Li., K. Tam. & F. Zhang (2015), 'CEO gender, ethical leadership, and accounting

conservatism', Journal of Business Ethics, 127(2), 351-370

[19] Johanson, J. & J.-E. Vahlne (2009), 'The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership', Journal of International Business Studies, 40, 1411-1431

[20] Tihayi, L., A. E. Ellstrand., C. M. Daily & D. R. Dalton (2000), 'Composition of the top management team and firm international diversification', Journal of Management, 26(6), 1157-1177

[21] Athanassiou, N. & D. Nigh (2000), 'Internationalization, tacit knowledge and the top management teams of MNCs,' Journal of International Business Studies, 31(3), 471-487

[22] Burke, R. J., M. Koyuncu., P. Singh., N. Alayoglu. & K. Koyuncu (2012), 'Gender differences in work experiences and work outcomes among Turkish managers and professionals,' Gender in Management: *An International Journal*, 27 (1), 23-35

[23] Kabasakal, H., Aycan, Z. & Farakas, F (2004), Women in management in Turkey, in Davidson, M.J. and Burke, R.J. (Eds), Women in Management Worldwide: Facts, Figures and Analysis, Gower, Aldershot.

[24] Kabasakal, H., Aycan, Z., Farakas, F. & Moden, C (2011), *Women in management in Turkey*, in Davidson, M.J. and Burke, R.J. (Eds), Women in Management Worldwide: Progress and Prospects, Gower, Aldershopt

[25] Broadbridge, A (2010), 'Women at the top in British retailing: plus ca change?', The Service Journal, 30, 1-25

[26] Fairlie, R. W. & A. M. Robb (2009), 'Gender differences in business performance: evidence from the characteristics of business owners survey', Small Bus Econ, 33, 375-395

[27] Williams, D.A (2013), 'Gender and the internationalization of SMEs', Journal of International Business Research, 133 – 146.

[28] Brush, C.G., N. M. Carter., E. Gatewood., P. G. Greene. & M. M. Hart (2004*), Clearing the Hurdles: Women Building High Growth Businesses*, Prentice Hall Financial Times, New York. 304 pp

[29] Fernando, W. A. J. A (2005), Gender subordination and women entrepreneurship, *Master's thesis*, Dublin Metropolitan University of Ireland, Dublin

[30] Hair, J. F., W. C. Black., B. J. Babin., R. E. Anderson & R. L. Tatham (2006), '*Multivariate data analysis* (6th ed)', Upper Saddle River: Pearson/Prentice Hall. 899pp

[31] Xiao, S. S., I. Jeong., J. J. Moon., C. C. Chung. & J. Chung (2013), 'Internationalization and performance of firms in China: Moderating effects of governance structure and the degree of centralized control', Journal of International Management, 19, 118-137

[32] Gashi, P., I. Hashi. & G. Pugh (2014), 'Export behavior of SMEs in transition countries', Small Business Economics, 42(2), 407-435

[33] Johanson, J. & J.-E. Vahlne (1990), 'The mechanism of internationalization', International Marketing Review, 7(4), 11-24

[34] Bathula, H (2008), Board characteristics and firm performance: Evidence from New Zealand, AUT University, pp.128

[35] Cerrato, D., M. Piva (2012), 'The internationalization of small and medium-sized enterprises: The effect of family management, human capital, and foreign ownership', Journal of Management & Governance, 16(4), 617-644

[36] Hibbert, E (2000), The Globalization of Markets-How Can SMEs Compete?, *Marketing Discussion Papers,* Business School, Middlesex University.

[37] Erdogan, A. I (2015), 'Which SMEs perceive access to finance as an obstacle to their operation? Evidence from Turkey', Journal of Economic and Social Development, 2(2), 13-19.

[38] Baykal, N. A., & Gunes, E. (2004). Effectiveness of SMEs in Turkish economy and agricultural industry sector. International Journal of Management and Enterprise Development, 1(4), 359-374.

[39] Almeida, R., & Carneiro, P. (2009). Enforcement of labor regulation and firm size. Journal of comparative Economics, 37(1), 28-46.

[40] Contractor, J. F., S. K. Kundu. & C.-C. Hsu (2003), 'A three-stage theory of international expansion: The link between multi-nationality and performance in the service sector', Journal of International Business Studies, 34(1), 5-18

[41] Maden, C (2015), 'A gendered lens on entrepreneurship: Women entrepreneurship in Turkey', Gender in Management: *An International Journal*, 30(4), 312-331

[42] Hsu, W.-T., H.-L. Chen. & C.-Y. Cheng (2013), 'Internationalization and firm performance of SMEs: The moderating effects of CEO attributes', Journal of World Business, 48, 1-12

Chapter

Accounting Quality and Its Challenges in 21st Century

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Abstract

This paper describes current research to drive future research challenges in accounting quality. The definition of accounting quality is mainly varying depending on the objective that the study pointed. Previous research revealed that many proxies describe the accounting quality but most of them from the financial perspective. Furthermore, this paper tries to expose this research issue in the behavioural approach and drive future research in the mixed method. It concludes that the behavioural issues can be a research model, triggering future research challenges in accounting quality. The authors support these triggers from the perspectives of political hegemony, bureaucracy ratcheting, cognitive distortion, and international accounting standard. Finally, we infer and simultaneously predict that accounting quality would broaden its concepts and lasting impression in the 21st century.

Keywords: accounting quality, usefulness, hegemony, ratcheting, cognitive distortion, international accounting standard

1. Introduction

The quality of financial accounting mainly determined its value. The central concept's accounting quality is that accounting information is better than other accounting information for business communication intended to convey. Accounting quality is very attractive to participants in the financial reporting supply chain for that reason. For example, better quality accounting can result in a lower cost of capital or equity for a reporting entity. For an investor and creditor, better accounting quality can translate into a firm's adaptability, scalability, growth opportunities, a low-risk firm, and a more profitable capital allocation. Meanwhile, this chapter shows that the quality of financial accounting had other areas, which is government accounting. It focuses on the quality of accounting information produced by government units (agents) that political and behavioural aspects dominate this quality.

The quality of accounting is an endurable issue that will never end to be investigated. Many aspects act as proxies for accounting quality, such as earnings quality, audit quality or earning management [1–7]. Those previous studies have investigated the determining factors, both in organisations, governments and politics or its consequences. Until now, the research focuses more on financial issues, specifically in the stock market, price, or return. For example, in the context of earning quality determining factor, more researchers discuss corporate governance mechanism, unsystematic risk, type of ownership or source of investment, managerial ability, and corporate social responsibility [8–15]. The impact of board diligence and audit committee attributes is negative. Foreign ownership contributes to financial reporting quality, but audit quality has a significant effect [16].

Accounting quality following applicable standards is closely related to financial information's usefulness to the users', especially in supporting user decision making. We could highlight this usefulness aspect not only from a financial side but also from a behavioural part. In other words, this paper presents an idea uniqueness that behavioural factors, including political hegemony, bureaucracy ratcheting, cognitive distortion and standard-setting, influence the future accounting quality. Accounting information results from a process involving many parties, either from the preparers (public or private) or parties who can guarantee the quality of the accounting information presented. Thus, the behavioural meaning of accounting quality is an important issue to be researched as well.

2. Brief of the accounting quality

The previous literature has revealed that although the concept of accounting quality is often employed in scientific discussions, that there is no single, widely accepted, or specific definition in terms of "accounting quality." The quality of accounting is a broad concept that has a series of diverse measurable attributes. Practically, definitions of accounting quality vary significantly across individuals, projects, and organisations. Recall from Renata [17] highlights that accounting quality-related research has gained interest until now.

The previous study [1, 18, 19] showed that the qualitative characteristics of financial information (according to US GAAP or IFRS requirements) or quality of financial statements (financial reporting) defines accounting quality. Such as, Hribar et al. [1] defines accounting quality as the extent to which accounting information accurately reflects the company's current operating performance, helps predict future performance, and helps assess firm value. Callen et al. [20] define accounting quality as the precision with which financial reports convey information to equity investors about the firm's expected cash flows. Poor accounting quality is likely associated with uncertainty about stock valuation parameters and incomplete information. It then could lead the users of financial accounting information adversely.

The previous research mostly linked accounting quality with better-earning quality, better earnings management, more timely loss recognition, higher firm value, and a lower cost of capital or cost of equity [2, 3, 14, 18]. Hribar et al. [1] state three broad accounting quality areas related to research are 1) the accounting quality analysis in the context of accounting harmonisation; 2) analysis of firm-specific factors influencing accounting quality and its consequences; 3) assessment of how institutional factors impact changes in accounting quality which is often dedicated to IFRS adoption. Although there are many accounting quality definitions, those all ultimately act the one purpose: to enable people to make value judgments regarding accounting information. Therefore, someone that measures the quality of accounting information will create the value judgments themselves.

3. Constraints and challenges to provide qualified information

Being measure accounting quality, the researcher has used many approaches and developed new methods continually. They are usually determined to expect measures of accounting quality directly from the financial statement or report.

For example, the measurement of accounting quality used to detect the earning management is the Beneish model's "M-Score" [9], computed from eight variables. The quantitative accounting metrics based its measured, that is, sales in receivables days.

Another measurement in terms of earning quality is accrual and deferral manipulations [5, 7, 21]. Meanwhile, the information other than the financial information or an entity report may base the measurement of accounting quality, such as the fee companies should pay to the external auditors or forecasts made by securities analysts to forecast the return. Thus, in most previous research, the accounting quality measurement is based on the history, archival data, or financial approach. Meanwhile, we know that the financial statements or report is the result of the accounting system process. Therefore, many parties are involved in this process to have better accounting quality, which behavioural perspective can also do.

In the current study example, the government's decline in audit quality changes the audit opinion on financial statements due to political hegemony, particularly in the financial statement audit process. From the auditor's side, the cognitive distortion influences the quality of their judgment, representing audit quality. Then, the study predicts that accountability can mitigate this chaotic cognitive [22, 23]. Meanwhile, the quality of government financial reports also was disturbed by the bureaucracy ratcheting. Audit on financial statements is an essential tool to reduce information asymmetry or maintain accounting quality. So, to get or improve financial performance or quality financial reports, it must be supported by audit quality, including the auditors' credibility and reliability.

Audit quality is a critical issue because the auditor's competence, independence, integrity, performance, and reputation are at stake in these auditing activities related to the findings of the audit opinions. As a result of the accounting system process, assessing the accounting system weaknesses found in the audit is an achievement of the auditor's competence. Meanwhile, the disclosure of anomalies in the results of the assessment system is an indicator in measuring the triumph of auditor independence. Thus, audit quality is part of the opinion quality produced by the auditor's consideration as an individual, which is affected by his competence Watkins et al., [24], including the skills and adequacy of the knowledge, experience, education, and cognition of the auditor as a requirement to carry out a professional and qualified audit. A high-quality auditor effectively ensures the credibility of financial information.

3.1 Political hegemony

Political hegemony plays a substantial role in developing countries. However, the role of the government is not vital enough to control all units or agents under it because it does not yet have maturity. In other words, the central government in developing countries are usually annexed by an imperium or superstructure. The process of annexation generally is that superstructure controls governance processes. For example, the superstructure governed the auditing process of the financial statement of government units. This process is conducted by the Audit Supreme Board (ASB) of developing countries until its implementation. However, this process could be on performativity due to superstructure influencing. In other words, the audits carried out and the audit outputs, even though they are processed, still produce low quality because the auditors are annexed. Therefore, the auditor behaves in performativity in the annexed audit process, which is unlikely to produce high-quality audited financial statements. This subsection presents in **Figure 1** as follows.

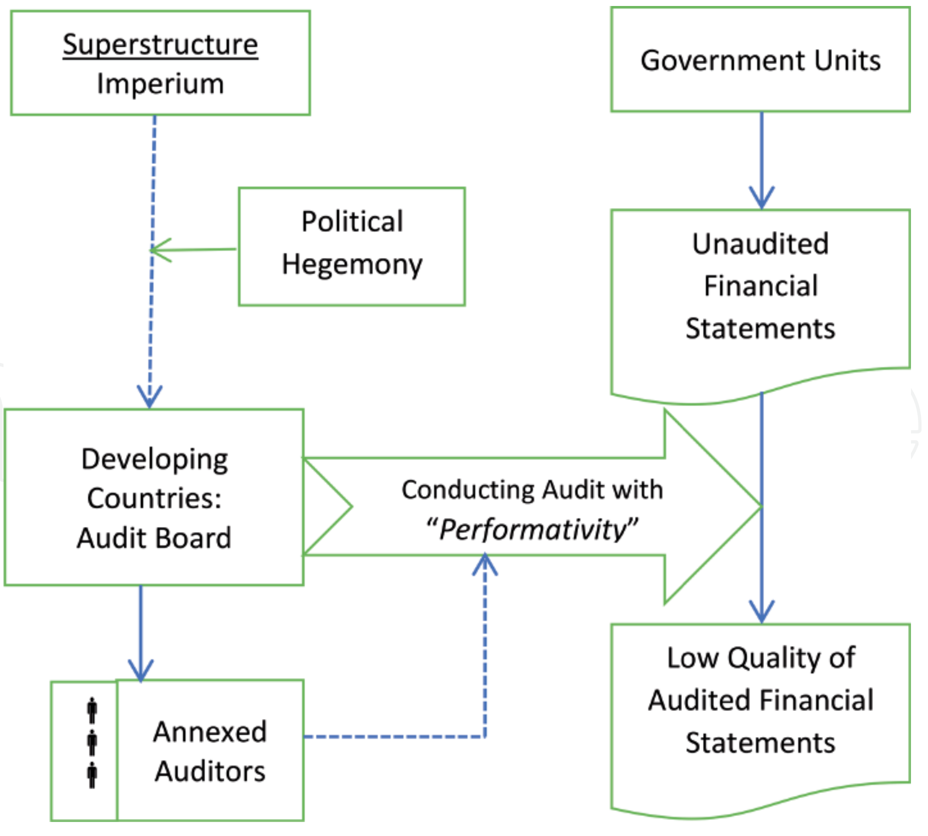

Figure 1.
Role of political hegemony in auditing process.

The term hegemony was first introduced by Gramsci et al. in 1971 [1] in his book "Selection from Prison Notebooks". There are three aspects of Gramsci's theory of hegemony. First, Croce's alleged influence over the latter is rejected, favouring equal concern with the whole generation of Italian intellectuals, not just Croce. Second, philosophy plays an essential role in Gramsci's theory of hegemony because it provides a fundamental critique of common sense and false consciousness. Third, the intellectual needs for a new hegemony are organic and involve traditional intellectuals in complex new formations [2]. Finally, the concept of hegemony is straightforward, which means that political leadership is based on the consent of the led, the agreement guaranteed by the diffusion and popularisation of the worldview of the ruling class [3]. Thus, we can refer to hegemony as the domination of one group over another, often supported by norms and legitimating ideas. Related terms hegemon is used to identify the actor, group, class, or state that exercises hegemonic power or is responsible for spreading hegemonic ideas.

Gramsci had identified the dominant role mode as a ruling class and was interested in explaining how concrete institutional forms and material relations of production became prominent. The supremacy of class and the subsequent reproduction of the associated mode of production can be obtained by brute domination or coercion. However, Gramsci's central observation is that in advanced capitalist societies, the preservation of the ruling class is achieved through consensus, mainly through intellectual and moral leadership. Gramsci also shows how hegemony requires the articulation and distribution of popular ideas beyond narrow class interests through the concept of national popularity.

Regarding audit quality as one of the accounting qualities dimensions, in the recent study, Sumiyana et al. [4] investigated political hegemony as a determinant of audit quality in public accounting. This chapter defined a political hegemony as equivalent to (as if) existed direction from the superstructure. Political hegemony can affect auditor independence and then the quality of audited financial statements. The authors highlighted that research could investigate political hegemony with auditors' organisational and political skills [25–27]. One form of organisational skills is establishing communication and relationships between supervisors and subordinates to achieve and improve performance and organisational capacity [28]. Meanwhile, political skill is defined as a person's ability to understand other parties and, with his skills, can influence the thoughts and actions of others to follow his wishes [26]. Political hegemony applies to the auditor if he acts with direction, and in the context of government auditors, they accept influence by consensus and without coercion [29–31].

This study shows that organisational and political skills, as proxies for political hegemony, affect audit quality. These results confirmed that annexed auditors desire quality audits in their work regarding organisational and political skills. This chapter demonstrates that the political hegemony of the highest leadership, implemented through the mass media, affects the auditors' cognition as subordinates. Directions or requests by the highest leadership are followed by attendants obediently. Furthermore, this study concludes that the mass media is a tool the ruling elite can convey their wishes.

If political hegemony is associated with audit quality, which requires the auditor to have competent and independent requirements, the following consequence will be decreased audit quality. This decline in audit quality includes changes in audit opinion on financial statements due to political hegemony, especially in auditing financial statements. This study enhances the understanding of how political hegemony, supported by imperium, the psychological ruling class, and spheres of influence substantially erode the constitutive role of auditors, giving rise to concerns about the value of taxpayers' money and the effectiveness and efficiency of the public sector.

This chapter provides evidence that the audit findings of the Indonesia Audit Supreme Board (IASB) were not followed up with further investigation or by the court. The first example is the land acquisition for the Sumberwaras Hospital, for which IASB identified a loss to the local government of IDR 199 billion [32]. Supposedly, the IASB proceeded with its audit finding to the court, but the case was stalled. This chapter suggests that the imperium influenced this discontinuation because this land acquisition decision-maker was close to the state power. In other words, with its sphere of influence, the imperium affected the termination of further investigations. Another law agency stated that conflicting codes of conduct in Indonesian business law ended this process. In the second example, IASB found evidence of underlying accounting data showing that the Indonesian Ministry of Religion transferred project funds to personal bank accounts of government officials [33]. The IASB stated that the evidence of the audit findings had high validity supported by evidence of transactions it had attached. However, the IASB still issued an unqualified opinion on the financial statements of the Ministry of Religion, which should not have been possible because these transactions violated internal control procedures. Moreover, many personnel in the ministry acknowledged transfers of money into their personal bank accounts for political reasons.

The third example in this subsection shows an absence of follow-up to the IASB audit findings, specifically in the case of the Audit Results Report (ARR) on the Financial Statement (FS) of the Jakarta Provincial Government for the 2013 fiscal year [34, 35]. This ARR recorded a local (provincial) government loss of IDR 85.36 billion, a revenue shortfall of IDR 95.01 billion and wasteful budget spending of IDR 23.13 billion. However, the audit findings indicated the absence of accountability for the province's financial management and issued an adverse opinion for its financial statements. The criminal investigation agency never followed up on this ARR. The IASB report was published, and then there was no follow-up.

This chapter infers that those managerial policies of government bureaucrats involve committing systemic violations of regulations that affect the quality of accounting information. These bureaucratic policies indicate that the quality of government accounting information in developing countries is deficient. The authors complement this evidence with many cases that have been dismissed without continuing the process through the courts. The dismissal of cases without clarity indicates that the influence of the dominant superstructure is most likely regulating and controlling the handling of cases. This study concedes that the superstructure is invisible, but the legal process is always at a standstill at a certain point without a solution. These dismissals of cases are also eliminated from the news later. However, this chapter noted that so many lawsuits being terminated is evidence of how political hegemony works.

3.2 Bureaucrat behaviours in budget ratcheting

Financial statement quality would still be ongoing for 21st because the behaviour of bureaucrats in developing countries is not yet mature, engaged, and ready enough to optimise both individual and organisational self. Budget ratcheting is usually the orientation of bureaucrats' behaviour in developing countries. In short, government bureaucrats in developing countries always choose the maximal budget to measure activity and performance. On the other hand, the central government of developing countries has set the same policy to improve with various blocked grant systems continually. The authors defined that government agents who always choose the maximum and continuously increase cause bureaucrats' ratchet behaviour. Moreover, these agents apply mechanistic regulations from the central government whose budget size must be improved. Furthermore, budget ratcheting dominates the low quality of the governments' financial statements. Shorten the explanation; this subsection presents **Figure 2** as follows.

The qualified financial information depends on the quality of its regulation, standards and procedures applied to the accounting system [33]. However, the accounting system's implementation could be the technical and political practice in the government, which is low on the political agenda because politicians based their decisions primarily on budget. On the other hand, the existing system is deemed appropriate to meet information needs so that there is no strong impetus for further changes [36]. Thus, in governmental accounting, the budget has a central position. Regarding the budget, one of the behavioural problems is ratcheting. Qualified governmental accounting is impossible to achieve when bureaucrats run ratchets. Commonly, ratcheting occurs when over-spending at the last year's expenditures (exceeding those budgeted) lead to more significant absolute changes in current budgeted expenses than underspending with a similar magnitude. Ratcheting refers to the use of past performance to set higher future targets.

The ratchet effect refers to the motivational implications of ratcheting as agents reduce their effort to avoid further raising future targets [37]. With ratchet behaviour as praxis, the accounting information is more of a description of the desires of the bureaucrats rather than solely for public service. Bureaucratic ratchet praxis gets more support than before when there is no underlying to produce quality accounting. In governmental accounting, there is no analysis of profit or the relationship between revenue and expenses. Therefore, rachet praxis can appear both budget-maximising and budget-minimising behaviour and for both self-interest and non-self-interest reasons. The praxis of these bureaucrats is driven by their characteristics and the problems they face: regulatory-wide regimes, organisational expedience, Undecidability, and Commodification [38, 39]. These four components then become the source of performativity for the subsequent bureaucratic praxis behaviour.

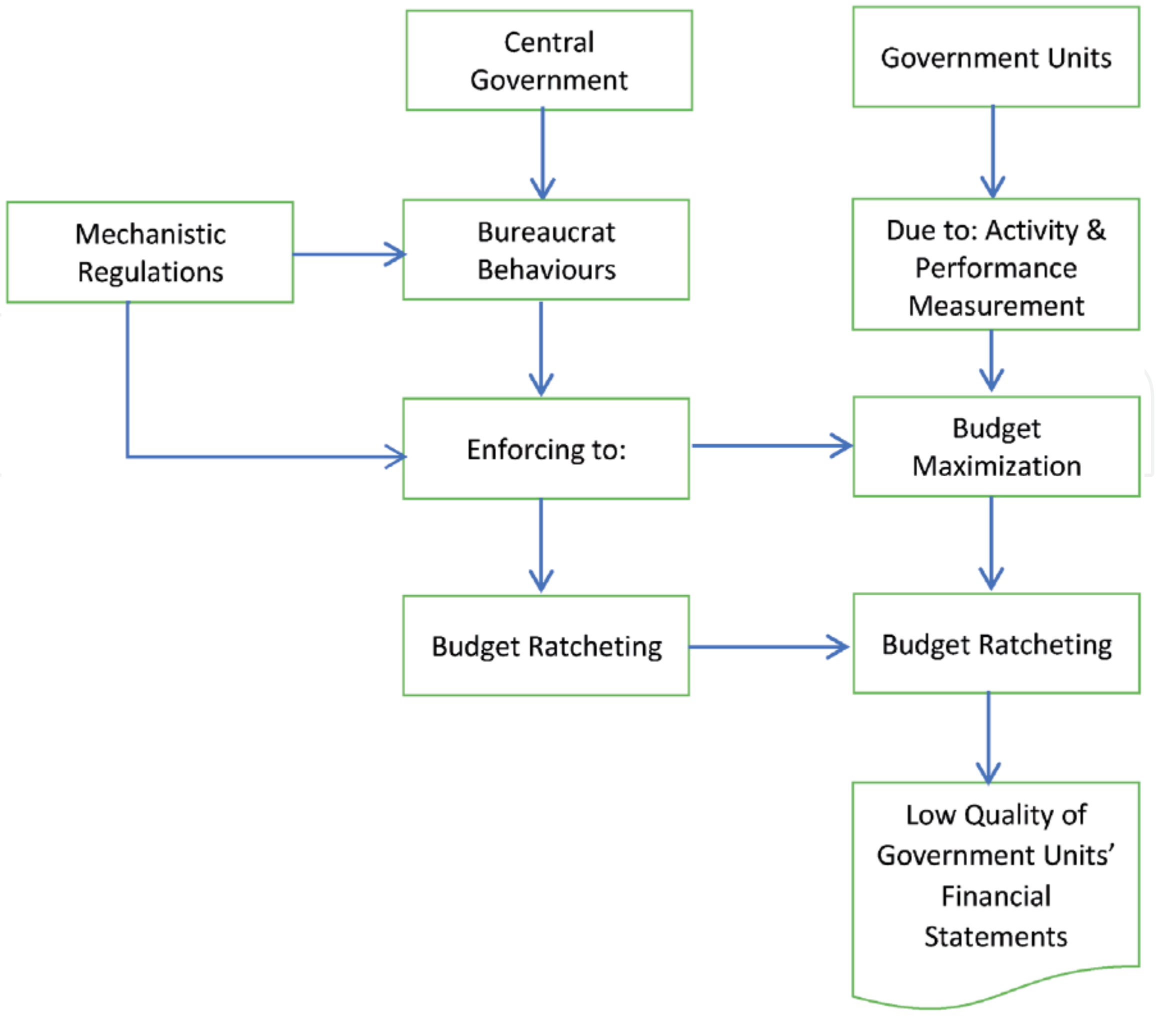

Figure 2.
Flow of budget ratcheting in governmental accounting.

In the public choice literature, bureaucrat ratchets are associated with Niskanen's presumption behaviour of budget maximised. He argues that bureaucrats are self-interested individuals who try to maximise their utility through larger budgets. Economic literature calls it the Leviathan model of government [40, 41]. According to this model, first, the government will grow and increase its power if it is not carefully checked by law [42]. Second, the budget maximiser is pursued because the bureau is a monopoly producer of goods and services demanded by sponsors. Many studies used Niskanen's theory in empirical research [43–47]. However, this presumption of the budget maximiser [48] still received much criticism in recent years. The authors considered that Niskanen's theory is that a bureaucrat oversimplifies behaviour. The motivations of bureaucrats are too varied to be captured under a budget-maximiser straightforward [49].

A study by Bowling et al. [50] uses a typology of bureaucrats [38] to offer a budget manager–budget maximiser continuum. Budget-maximising bureaucrats are more likely to be advocates and aggrandises (Climber) types, while Altruists (Statesman) or Abider (Conserver) types tend not [50]. The presumption of budget maximiser offers a more plausible theoretical basis for budget maximisation than self-interest for bureaucrats in the spirit of Public Service Motivation (PSM) [51]. Budget maximiser relates in part to the characteristics of bureaucrats. For example, Budget-Minimizer behaviour occurs in bureaucrats who are professional or career-oriented [52]. Several surveys in The American State Administrators Project (ASAP) show a preference for the Budget-Minimizer. Budget-Minimizer does not mean lowering the budget but more a tendency not to increase the budget.

Several factors in the emergence of a budget minimiser are the influence of ideology in Partisanship. Partisanship in the republican party will partly use a budget minimiser compared to the democratic party [53]. However, the overall results of the reported survey of agency chiefs [50] using ASAP data still show the behaviour of bureaucrats to increase budgets. Then, why do bureaucrats generally behave to increase the budget?

A recent study was conducted to highlight the phenomenon of ratchet behaviour in public budgeting. This study offers a new insight that budget rachets are bureaucratic praxis. Praxis is the diverting process of bureaucrats' awareness about the constraints they experience and making them explicit in practice [54–56]. This study is in the Indonesian context compared to the American state. There are differences in state tax collection, government spending, and citizens' resistance between the United States and Indonesia. In the United States, society has reached a point where society can no longer bear taxes (tax revolt). Meanwhile, in Indonesia, such conditions have not occurred. However, there is a similarity that the two countries also continue to experience growth in spending.

This study has interviewed 24 local government officials and internal government auditors. This study found at least four reasons related to the bureaucrats' characteristics for what bureaucrats carry out ratchet praxis. First, the applicable regulatory-wide regime may shape the bureaucratic cognition of decentralised regulatory practices in Indonesia. Second, local governments can get discretionary grants such as block grants. They are a dominant source of regional income but result in chaotic or confusing performance [57]. They also design blurs discretion and creates pseudo accountability. Third, local governments face a mismatch between revenue and expenditure responsibilities to local governments [58]. The Indonesian Government practices covering regional budgets when there are regional fiscal difficulties. This policy means that the government has a low commitment to local bureaucrats. This study notes that these two conditions encourage district and provincial governments to get budgetary slack [59].

Second, organisational expedience causes officials to focus too much on achieving goals at the expense of established rules or norms [60]. In dealing with regional problems, regional heads may make expenditure budgets, not under central regulations. This study shows that the policy actions of district and provincial bureaucrats in the regulatory regime can be called selective attention syndrome [61]. Third, the undecidability budget, which is a local government budget that certainty cannot determine. This study defines that the budget amount determines what can be decided in a specific form. Many local governments face budget undecidability by creating budget slacks to pursue security in their budget execution [62]. Fourth, Commodification means that after autonomy and decentralisation, the budget executor initiates regional economic development. People demand fiscal independence and decentralise physical infrastructures such as roads, bridges, markets, and tourist attractions. This study notes a change in the role of local government from administration to business management [63–65]. As a result, local governments rely on funds from the Government of Indonesia and always ask for additional budgets.

At the central government level, this study identifies a continuous increase in the central government budget. This condition means that government budget growth always occurs in national scope budgeting for government agencies, not a zero-sum game [66–68]. The bureaucrats are more focused on their respective institutions. However, it becomes a zero-sum game at the national level in a centralised country. An increase in budget revenues at one ministry, agency, or regional government will reduce the budget or hinder budget increases at other ones. Bureaucrats have different characteristics than their private counterparts. The disconnection between bureaucrats' efforts and the rewards they receive makes researching bureaucratic behaviour a challenge. It seems complicated to generalise the behaviour of bureaucrats in increasing budgeting.

The government budget is a viewpoint of allocated funds contested by most of the existing government agencies. So at least, it can be concluded. First, the practices of the tendency of budget-maximiser and self-interest behaviour are not as strong a motivator as they have been believed. Previous studies on federal officials have also shown similar results [69]; second, budgets keep moving up. The opinion that is still valid regarding the budget ratchet is that the growth in government spending is stable although relatively small compared to the increase in budgets during the Great Depression, World War I and World War II [70]. According to Holcombe, the best estimate for the twenty-first century is probably the steady growth of government, but not shrinking. Thus, the era of excellent governance will still be ongoing [70]. Instead of bureaucrats' practices as budget maximisers driven by self-interest, this article suggests that budget ratcheting is related to bureaucratic praxis. It will reflect politics, budgeting institutions, program implementations and different budget control systems in each country and performativity for bureaucrats to behave.

This chapter provides evidence that bureaucrats always choose ratchet budgeting in an emerging country, Indonesia. The first example: the preference for adding more local government programs with only 30 regional apparatus organisations running between 150 and 600 programs, so they do not focus on regional priorities [71]. Second, local government bureaucrats also often create budgetary programs that are not directly related to their performance. For example, awards night events are budgeted more than two billion for the prizes and the event itself [72]. The third is unimagined budgetary programs, such as recruiting social-media influencers, disbursing IDR 5 billion more than the COVID-19 research budget [73]. The latest is that expenses for official travel by bureaucrats are also expenditures for target fulfilment of budgetary ratcheting. This chapter noted that the official travel budget for a local government unit could spend more than IDR 514 billion [74].

The four examples show that the accounting activities of local governments in an emerging country are frequently out of control. Consequently, local governments' accounting information can never reflect the reality of their budgetary programs. A further consequence is that many expenditures and disguised activity targets burden the quality of accounting information. Therefore, this chapter infers that the quality of (local and central) governments' accounting information does not display the causality of effort-accomplishment. Furthermore, the authors show that, in all budgetary processes for government activities, accomplishments are in the budgetary rachets that are not deterministically related to actual output. Meanwhile, the efforts continually increase to maintain the safety margin of budgetary programs. Moreover, the motives of state civil officials' behaviour support these disguised efforts in all objectives. Finally, the relationship between the efforts and accomplishments implies the low quality of government accounting information.

3.3 Auditors' and users' cognitive distortion

This section explains that financial statements are hard to achieve in high quality. We show that preparers, auditors, and users have embedded cognitive distortions, such as parataxic distortion, denial, psychological projection, and transference. As a result, even high-quality financial statements can be perceived as low by users and vice versa. Likewise, financial statement preparers who treat standards strictly have believed that the prepared financial statements are of high quality but is quiet and vice versa. Consequently, high-quality financial statements produce poor quality because the preparers, auditors, and users are in cognitive distortions. This cognitive condition results in the quality of accounting information being never-ending and durable for the 21st century. Shorten the explanation; this subsection presents **Figure 3** as follows.

A cognitive distortion is a deviated thought that occurs due to the reversal of a fact during information evaluation activities. For example, individuals with an initial preference weigh minor negative (disagreement) than positive (agreement) that has the desired impact on supporting their choice. In addition, individuals tend to be more optimistic when assessing the character of relevant information, whether it is favourable or unfavourable information, related to decisions [75]. Regarding the audit process, the affirmative process in auditor cognitive distortion occurs during evaluating evidence [76, 77]. Meanwhile, the auditor's judgment on decision-making (JDM) depends on the individual situational conditions [78]. This chapter also argues that the financial statement users did what auditors were on JDM.

Bonner [79] suggests that predispositions influence JDM in individuals, including knowledge, skills, emotions, cognition, and other psychological dispositions. To carry out audit considerations, the auditor needs and sorts out information following his preferences and assignments. Bedard & Biggs [80] exemplify protocol analysis (verbal reports) in analytical review studies. When the auditor reviews analytically, a sequential and interactive diagnostic process involves representing mental models, formulating hypotheses, searching for information, and evaluating hypotheses before assessing the client's internal control is made [81–85]. Furthermore, Rybowiak et al. [86] stated that cognitive and attitudinal predispositions influence current behaviour to be easily controlled in various situations. So, the predisposition to auditor cognitive distortion can be controlled by situational factors. Finally, the authors show that the users of financial statements utilise information on the financial statements with cognitive and attitudinal predispositions that influence their current behaviour.

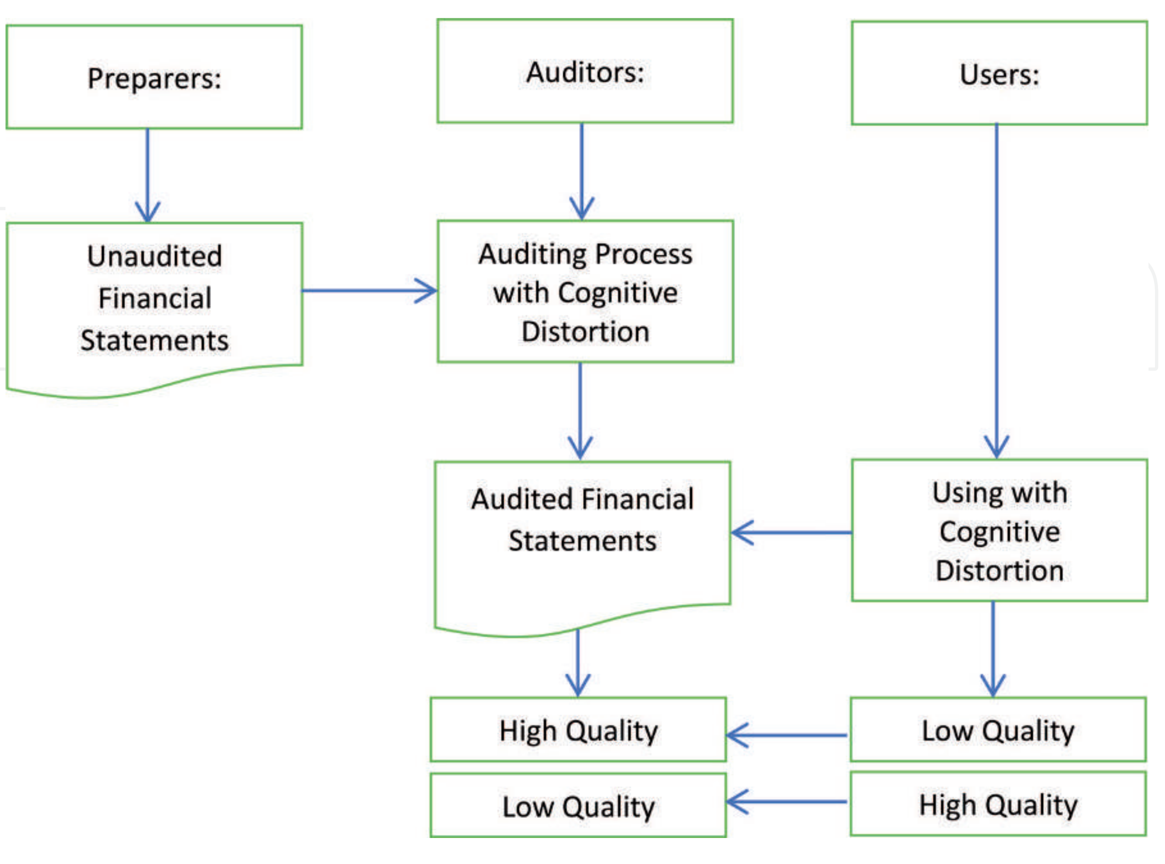

Figure 3.
The problem of auditors' & users' cognitive distortion.

Previous auditing research found distorted judgment and decision making based on the human tendency to generate systematic errors due to cognitive factors rather than evidence. Distortions tend to arise in auditors who already understand and are familiar with assignments because of individual self-protection mechanisms based on their experience [87]. When auditors are psychologically committed to a given position, they selectively select information and seek evidence supporting previous predispositions [77]. Information seeking helps auditors' preferences [80, 88], and they tend to search excessively for information that supports their initial beliefs or predispositions [89]. This chapter also argues that the users of financial statements did too. The authors comprehend that the users of financial statements in utilising financial statements in their successively previous predisposition.

A study has investigated the relationship between auditors' cognitive distortion and their decision quality as an indicator of audit quality. Previous research revealed the ties between cognitive distortions and individual behaviour from the aspect of psychological [90], in the context of Auditing [91] and accounting [92]. Rybowiak et al. [86] explained that the predisposition of cognitive and attitudinal distortions affects auditor behaviour in various situations. Thus, cognitive distortion becomes an antecedent that influences and is relevant to dysfunctional behaviour. In this chapter, cognitive distortion is defined as when the auditor's interests unconsciously lead to a systematic process of making wrong decisions. As a result, auditors predispose to cognitive distortions that result in dysfunctional behaviour [93–105]. We argue that the users of financial statements having their leading process in utilising the contents of financial statements.

Defence mechanisms are the auditor's strategy in maintaining self-image and reputation. In this study, four predisposing indicators of cognitive distortion were identified as psychological deviations in the taxonomy of defence mechanisms, namely: parataxic distortion, denial, psychological projection, and transference [87, 106–109] refers to the research of Nelson et al., [110]; Pickerd et al., [111]; and Sweeney et al., [112] related to the audit process. Defence mechanisms reflect the existence of cognitive control outside of the awareness of the function of defence mechanisms as protection of one's integrity from excessive fear [106]. Parataxic distortion as the attachment of a false perception of others based on delusions [87, 109, 113, 114]. Auditors experience cognitive distortions in the form of attachment distortion due to long [115–117] and tied [118] engagements. We show that the users of financial statements were probably in parataxic distortion, denial, psychological projection, and transference due to their defence mechanism.

Furthermore, denial is a habit of dealing with problems interpreted as threats even though they are trivial [119–121]. There are incidents when auditors have difficulty forecasting, experience challenging uncertainties, complex, subjective, and estimative material misstatements that open opportunities for errors to occur, then they avoid them. The habit of avoiding this problem makes the auditor perform non-optimal analyses, such as estimation errors and assessments of materiality, risk, internal control, and audit evidence that impact inappropriate decision-making considerations [93]. Moreover, Buckner & Carroll [122], Harms et al. [123]; and Payne [124] defines psychological projection as thoughts, motivations, needs, and feelings that cannot be accepted as they are because they do not match the attributes of others. Psychological projection tends to make someone look down on others. This projection is a way to maintain a self-image because of the perceived threat or fear. According to their cognitive distortions, the auditors prefer client management preferences to senior choices due to economic factors [117, 125]. The authors inferred that the users, such as auditors, of financial statements have the psychological projection used to avoid threat and fear and maintain their self-preferences.

Lastly, transference is a person's current feelings, impulses, fantasies, and defences that are not by the truth [109, 126–128]. Andersen & Berk [129] describe transference as the activation and application of representations of others, leading to inference and memory representations, evaluations, affect, motivation, expectations and self-change. For example, auditors who identify with clients are distorted and oriented to act in their interests [130, 131]. This variation in defence mechanisms depends on the interaction between developing a person's level of cognitive maturity and the characteristics of the situation at hand [132]. Thus, this research analyses the different levels of cognitive distortion from denial to parataxic distortion related to cognitive complexity defence in dysfunctional auditor decisions. Moreover, this chapter revealed that the users of financial statements were on transference because of their complexity in distorted cognition. Then, this research showed that accountability could mitigate this auditor's cognitive distortion based on the cognitive-behavioural theory.

This chapter finally presents an argumentation that could reduce auditors' and users' cognitive distortions. We raise accountability when it means the pressure to anticipate because of the justification of one's judgments and decisions against other parties [133, 134]. Accountability pressure is the ability to respond to other parties. Accountability is a mechanism to show that the previously established standards are relevant to fulfilling obligations, duties, expectations, and additional burdens. Organisations can use and condition accountability pressures as situational factors to mitigate cognitive distortions that support dysfunctional considerations that impact audit outcome decisions. Accountability pressure is a mechanism organisations use to control and direct employees [133–135]. Previous research has shown the effect of accountability pressures on decision considerations in various professions, including professional accountants, tax practitioners, the medical work and corporate accountants [112, 135–139].

This section provides evidence of the cognitive distortions of executive officers that probably affect the quality of accounting information. Accounting policies and discretionaries follow adverse hazards because of the defence mechanism to carry out the executive officers' agenda. First, two members of the board of directors of Garuda Indonesia refused to sign the 2018 annual report, which is a parataxic distortion. This refusal was due to irregularities in the Annual Income Statement. The discrepancy lies in the cooperation between Garuda Indonesia and PT Mahata Aero Teknologi (a subsidiary firm) worth USD 239.94 million, which is a long-term receivable but was recorded by Garuda Indonesia executive officers as realised revenue. This designation resulted in Garuda Indonesia recording a profit of USD 809,850 in the 2018 annual report. Therefore, Garuda Indonesia would have recorded a loss if this long-term contract operation was not included [140]. The second example is the executive officers' defence mechanism with a transference. PLN Co., Ltd. (the leading electricity company in Indonesia) recorded a loss due to the difference in the dollar exchange rate on the date of the financial statement issued, which was December 31, 2019. PLN published its financial statements and used the dollar exchange rate used on March 31, 2020, without recognising foreign exchange losses [141].

In the third example, Jiwasraya Insurance Company published errors and irregularities in recognising profits in its Financial Statements. Since 2006, the company had consistently recorded a profit. However, the accounting earnings were false due to accounting engineering or window dressing, where in fact, the company had suffered losses. These losses arose from a managerial error in making an investment decision recorded the losses as deferred charges at the end of the year. In addition, Jiwasraya Insurance Company in 2017 realised a profit of IDR 360.3 billion and got the auditor's adverse opinion because an existing fraud of IDR

7.7 trillion was treated without adjustment for that current year [142]. The fourth example is the psychological projection distortion occurring in Pertamina with the COVID-19 pandemic. This company experienced real impacts: a decrease in oil demand, Indonesian rupiah depreciation, and very sharp fluctuations in crude oil prices in the first semester of 2020 and recorded losses of IDR 11.13 trillion. These losses greatly affected Pertamina's financial performance, impacting executive officers who did not recognise these losses in the first semester. These CEOs published firms' profits with optimistic behaviours as the year ended (the second semester), although changing swiftly to double or triple net income was an impossibility [143].

3.4 International accounting standard (IAS) and accounting quality

Ideally, accounting quality could increase because of changes in the financial reporting system contemporaneous with firms' adoption of IAS, for example, more rigorous enforcement. Thus, we can predict that accounting values or amounts based on IAS are higher than those found on domestic standards. In addition, the worldwide adoption of IFRS (as one of IAS) by public interest companies drives accounting harmonisation. There have also been considerable efforts to achieve international convergence of accounting standards by reducing cross-country differences in accounting practice.

Ebaid [144] investigated the implementation of IAS and its relationship to the accounting quality in code-law countries in Egypt. This study reveals that accounting quality, as measured by earnings management, has decreased in the post-adoption period compared to the pre-adoption period. IFRS is set up to provide high-quality financial reporting. However, this cannot be achieved solely by a regulatory requirement to follow. Even if IFRS are higher quality standards, the institutional features of the Egyptian market could eliminate any improvement in accounting quality arising from adopting IFRS. Firms are applying IAS exhibit less earning smoothing, less managing earnings towards a target, more timely recognition of losses, and a higher association of accounting numbers with share prices and returns. IAS firms have a higher accounting quality between the pre-and post-adoption periods [145].

Accounting standards also are expected to act as a mediator of conflicts of interest between investors and managers. As the role of the mediator, this mediation must be able to reconcile financial reports and the role of efficient contracts from accounting information or how to determine the amount of socially correct information (right). This paper referred to the genuine motivation of the International Accounting Standards Committee (IASC). International accounting standards and the International Accounting Standards Board (IASB) aims to produce high-quality financial reporting. Thus the IASC and IASB issue principles-based standards and take steps that provide alternative accounting opportunities and require a better measure reflecting the economic position and performance [145]. However, differences in accounting quality would remain lasting due to IFRS adoption. Meanwhile, accounting quality is an influential function of the firm's overall institutional setting, including the legal and political system of the country in which the firm resides [19]. In the end, this paper inferred that the objectives of international standard-setting could not be achieved due to differences in each country's context and regulations.

4. Conclusions

The purpose of presenting the financial reports is to provide how general-purpose financial information must be compared with the entity's previous financial statements and other entities' financial statements. The general-purpose financial statements provide information about the entities' financial position, income statement, and cash flow statement. These statements are then useful for various users in making and evaluating decisions about resource allocation. General-purpose financial reporting aims to provide valuable information for decision making and demonstrate the entities' managerial accountability and responsibility for the resources entrusted to these firms.

Users of financial reports vary widely, such as shareholders, creditors, suppliers, the media, or the public. The demands of the report users mainly drive the presentation of financial reports that are useful for decision making. However, the challenge to produce quality financial reports is quite heavy many factors determining it. The users, especially the public, generally do not utilise financial statement information to make decisions. For example, in the public sector, people tend to use information about the government services they receive. The implication is that the auditor's role in assessing the fairness of the presentation of financial statements is also less than optimal.

Moreover, the audit report on financial statements can also be distorted by the auditor's cognition and political hegemony, reducing audit quality. Another weakness is the attitude of the legislators, who tend to use budget information rather than financial reports as a medium for oversight of the government. Meanwhile, the budget discussed by the top executive officers and legislative is made to be carried out by ratcheting. In this case, finally, financial reports are more of a means of control from the central government to its subordinate agencies rather than presenting quality information to other users. This condition will vary significantly in each government, depending on the government system, budgeting system, demands for public accountability. The implication is the diversity of the application of accounting standards.

Finally, in the spirit of ease to compare the financial report among entities across countries, the facts revealed that accounting harmonisation is not easy to realise. Instead of this phenomenon, the financial statement among entities across countries must adapt to their condition. The other aspect, as an endurable issue in accounting research, the following study can investigate the accounting quality in various aspects. For example, to determine the earnings management activities carried out by managers, a mixed-method subsequent can carry out. It can predict using archival data related to management abilities or a behavioural perspective related to moral ethics or a manager's cognitive bias.

5. Future research

The audit should be held as a contract by engaging external auditors to further research government financial statements. This method is expected to exclude the ongoing political hegemony. The IASB's auditors are part of the state civil apparatus immune from being fired, constantly under political hegemony and performativity. The state civil apparatus staffing system makes them behave in a "take it easy" way. Furthermore, this chapter raises the issue of terminating political hegemony if the IASB could implement an artificial intelligent-based auditing system. Indonesia must build an autonomous system, i.e., by applying machine learning, artificial neural networks, etc. In line with this system, an AI (artificial intelligence)-based audit [146, 147] frames all computer systems-based audit procedures and analyses so that auditors are not influenced and affected by subjective norms [148]. With AI-compliant results, in the end, the results are communicated, and there is no longer any chance for justification due to political hegemony.

As for the budgetary ratchet perspective, future research should associate with performance measurements, and what applies is likely the relationship between administrative law and business administration. Furthermore, future research should emphasise bureaucrat behavioural orientation that lets the budgetary rachet become a defence mechanism. The related concepts that could be examined for future research are the transformation of controller behaviours whose efforts and accomplishments are not directly associated with bureaucrat performance. Such a study could also focus on the budgetary system used with a multi-year perspective, not an annual cut-off system. Furthermore, the bureaucrat performance measurement would be based on a managerial-based process rather than an output-based process.

As for future research on cognitive distortion, a motive described in positive accounting theory will affect the cognitive distortion of defence mechanisms. Moral hazards such as altruism, self-interest, selfishness, and political will are dominant and support executive officers' cognitive distortion. This chapter noted that research related to dysfunctional behaviour and cognitive distortions are extensive. Many previous studies have investigated the characteristics illustrating the deficiency of Positive Accounting Theory (PAT) as a comprehensive, contextual, and holistic analysis of accounting policy in organisations. Positive research is blamed for failing to recognise the socially constitutive character of academic knowledge and its underlying value predispositions. In devising an alternative, Chabrak [149] introduces hermeneutic phenomenology. It is a new framework that offers the possibility of exploring and constructing a new understanding of an organisation's accounting policy to preserve its holistic and casuistic character on the epistemological level.

Kahneman et al. [150] state that there are biases in managerial decision making. Heuristics can often lead to systematic bias [151]. Bias judgment and decision-making are human tendencies to make systematic errors based on cognitive factors rather than evidence. For example, people make predictable irrational choices when choosing between alternatives, often producing the same repeatedly deviations. According to Bazerman and Moore [152], general bias can be attributed to and categorised in their radiating heuristics. Furthermore, Kahneman et al. [150] explain that the human brain's irrationality often influences individuals' decisions that they and others around them fail to anticipate. Thus, errors and irregularities resulting from the cognitive bias prevent the making of sound decisions. What is more, even when executive officers have accumulated a lot of work experience and knowledge, they are still subject to that bias and, in some instances, even more so than inexperienced executives.

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Conflict of interest

The authors declare no conflict of interest.

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References

[1] P. Hribar, T. Kravet, and R. Wilson, "A new measure of accounting quality," *Rev. Account. Stud.*, vol. 19, no., pp. 506-538, 2014, doi: 10.1007/s11142-013-9253-8.

[2] H. Ngoc DANG, C. Duc PHAM, T. Xuan NGUYEN, and H. Thi Thanh NGUYEN, "Effects of Corporate Governance and Earning Quality on Listed Vietnamese Firm Value," *J. Asian Finance.*, vol. 7, no. 4, pp. 71-80, 2020, doi: 10.13106/jafeb.2020.vol7.no4.71.

[3] N. Bhattacharya, F. Ecker, M. Olsson, and K. Schipper, "Direct and Mediated Associations among Earnings Quality, Information Asymmetry, and the Cost of Equity," *Source Account. Rev.*, vol. 87, no. 2, pp. 449-482, 2012, DOI: 10.2308/accr-10200.

[4] M. D. Beneish, "The Detection of Earnings Manipulation," *Financ. Anal. J.*, vol. 55, no. 5, pp. 24-36, 1999.

[5] P. Dechow, W. Ge, and C. Schrand, "Understanding earnings quality: A review of the proxies, their determinants and their consequences," *J. Account. Econ.*, vol. 50, no. 2-3, pp. 344-401, Dec. 2010, doi: 10.1016/j.jacceco.2010.09.001.

[6] J. Arquilla and A. W. Marshall, "Ethics and Information Warfare," in *Strategic Appraisal*, 1st ed., Z. M. Khalilzad and J. P. White, Eds. RAND Corporation, 1999, pp. 379-402.

[7] S. P. Kothari, A. J. Leone, and C. E. Wasley, "Performance matched discretionary accrual measures," *J. Account. Econ.*, vol. 39, no. 1, pp. 163-197, Feb. 2005, doi: 10.1016/j.jacceco.2004.11.002.

[8] M. Liu, Y. Shi, C. Wilson, and Z. Wu, "Does family involvement explain why corporate social responsibility affects earnings management?" *J. Bus. Res.*, vol. 75, pp. 8-16, Jun. 2017, doi: 10.1016/j.jbusres.2017.02.001.

[9] Y. Kim, M. S. Park, and B. Wier, "Is Earnings Quality Associated with Corporate Social Responsibility?," *Source Account. Rev.*, vol. 87, no. 3, pp. 761-796, 2012, doi: 10.2308/accr-10209.

[10] F. Heidarpoor and F. S. Shahrivar, "Unsystematic risk and internal control quality impact on the earning quality by using volatility profits index in tehran stock exchange," *Indian J. Sci. Technol.*, vol. 8, no. 11, 2015, doi: 10.17485/ijst/2015/v8i11/71800.

[11] S. Setin and E. Murwaningsari, "The effect of Managerial Ability towards Earning Quality with Audit Committee as Moderating Variable," ABRM, 2018. Accessed: Mar. 31, 2021. [Online]. Available: www.jbrmr.com.

[12] J. N. Myers, L. A. Myers, and T. C. Omer, "Exploring the Term of the Auditor-Client Relationship and the Quality of Earnings: A Case for Mandatory Auditor Rotation?," *Account. Rev.*, vol. 78, no. 3, pp. 779-799, 2003.

[13] M. Moshtagh, J. Mirlashari, H. Rafiey, A. Azin, and R. Farnam, "Human identity versus gender identity: The perception of sexual addiction among Iranian women," *Health Care Women Int.*, vol. 38, no. 7, pp. 732-752, 2017, doi: 10.1080/07399332.2017.1322594.

[14] J. Francis, D. Nanda, and P. Olsson, "Voluntary Disclosure, Earnings Quality, and Cost of Capital," *Source J. Account. Res.*, vol. 46, no. 1, pp. 53-99, 2008, doi: 10.1111/j.l475-679X.2008.00267.x.

[15] J. Francis, A. H. Huang, S. Rajgopal, and A. Y. Zang, "CEO reputation and earnings quality," *Contemp. Account.*

Res., vol. 25, no. 1, pp. 109-147, 2008, doi: 10.1506/car.25.1.4.

[16] F. Almaqtari, A. A. Hashed, M. Shamim, and W. M. Al-ahdal, "Impact of corporate governance mechanisms on financial reporting quality: a study of Indian GAAP and Indian Accounting Standards," *Probl. Perspect. Manag.*, vol. 18, no. 4, pp. 1-13, 2020, doi: 10.21511/ppm.18(4).2020.01.

[17] R. Legenzova, "A Concept of Accounting Quality from Accounting Harmonisation Perspective," *Econ. Bus.*, vol. 28, no. 1, pp. 33-37, Apr. 2016, doi: 10.1515/eb-2016-0005.

[18] M. E. Barth, W. R. Landsman, and M. H. Lang, "International accounting standards and accounting quality," *J. Account. Res.*, vol. 46, no. 3, pp. 467-498, Jun. 2008, doi: 10.1111/j.1475-679X.2008.00287.x.

[19] N. S. Soderstrom and K. J. Sun, "IFRS adoption and accounting quality: A review," *Eur. Account. Rev.*, vol. 16, no. 4, pp. 675-702, 2007, doi: 10.1080/09638180701706732.

[20] J. L. Callen, M. Khan, and H. Lu, "Accounting quality, stock price delay, and future stock returns," *Contemp. Account. Res.*, vol. 30, no. 1, pp. 269-295, Mar. 2013, doi: 10.1111/j.1911-3846.2011.01154.x.

[21] P. M. Dechow and I. D. Dichev, "The quality of accruals and earnings: The role of accrual estimation errors," in *Accounting Review*, Mar. 2002, vol. 77, no. SUPPL., pp. 35-59, DOI: 10.2308/accr.2002.77.s-1.35.

[22] S. Sumiyana and S. Sriwidharmanely, "Mitigating the harmful effects of technostress: inducing chaos theory in an experimental setting," *Behav. Inf. Technol.*, vol. 39, no. 10, pp. 1079-1093, Jul. 2020, doi: 10.1080/0144929X.2019.1641229.

[23] S. Sumiyana and S. Sriwidharmanely, "The Chaotic Behaviour of ICT Users," in *Chaotic System*, IntechOpen, 2020, p. 20.

[24] Watkins, A. L., Hillison, W., & Morecroft, S. E. Audit quality: Asynthesis of theory and empirical evidence. Journal of Accounting Literature. 2004. 23, 153-193. ISSN 0737-4607

[25] H. Mintzberg, "The Organization as Political Arena," *J. Manag. Stud.*, vol. 22, no. 2, pp. 133-154, Mar. 1985, doi: 10.1111/j.1467-6486.1985.tb00069.x.

[26] G. R. Ferris, P. L. Perrewé, and C. Douglas, "Social Effectiveness in Organisations: Construct Validity and Research Directions," *J. Leadersh. Organ. Stud.*, vol. 9, no. 1, pp. 49-63, Aug. 2002, doi: 10.1177/107179190200900104.

[27] A. H. Kimura, "Understanding Fukushima: Nuclear impacts, risk perceptions and organic farming in a feminist political ecology perspective," in *The International Handbook of Political Ecology*, Edward Elgar Publishing Ltd., 2015, pp. 260-273.

[28] G. Lăzăroiu, "Work Motivation and Organisational Behavior," *Contemp. Readings Law Soc. Justice*, vol. VII, no. 2, pp. 66-75, 2015.

[29] M. Clark, *Antonio Gramsci and the revolution that failed*. Yale University Press, 1977.

[30] John J. Mearsheimer, "The Future of the American Pacifier," *Foreign Aff.*, vol. 80, pp. 46-61, Jul. 2001, doi: 10.4324/9781315251943-10.

[31] T. Rogers, D. P. Green, J. Ternovski, and C. Ferrerosa Young, "Social pressure and voting: A field experiment conducted in a high-salience election," *Elect. Stud.*, vol. 46, pp. 87-100, Apr. 2017, doi: 10.1016/j.electstud.2017.02.004.

[32] A. Rudi, "Menurut BPK, Ini 6 Penyimpangan dalam Pembelian Lahan RS Sumber Waras," *Kompas.com*, 2016. https://megapolitan.kompas.com/read/2016/04/13/15314101/Menurut.BPK.Ini.6.Penyimpangan.dalam.Pembelian.Lahan.RS.Sumber.Waras. (accessed Aug. 29, 2021).

[33] M. R. Priyasmoro, "Evaluasi APBD, Kemenkeu Temukan Pemborosan Pemerintah Daerah," *Liputan6.com*, 2020. https://bisnis.tempo.co/read/1036107/evaluasi-apbd-kemenkeu-temukan-pemborosan-pemerintah-daerah (accessed Aug. 29, 2021).

[34] BPK Perwakilan Provinsi DKI Jakarta, "Hasil Pemeriksaan BPK atas LK Pemerintah Provinsi DKI Jakarta TA 2013," 2014. https://jakarta.bpk.go.id/hasil-pemeriksaan-bpk-atas-lk-pemerintah-provinsi-dki-jakarta-ta-2013/ (accessed Aug. 29, 2021).

[35] A. M. Keteng, "BPK Temukan Potensi Kerugian APBD DKI 2013, Ahok: Ini Kado Ultah - News Liputan6.com," *Liputan6.com*, 2014. https://www.liputan6.com/news/read/2066253/bpk-temukan-potensi-kerugian-apbd-dki-2013-ahok-ini-kado-ultah (accessed Aug. 29, 2021).

[36] I. Brusca, E. Caperchione, S. Cohen, and F. M. Rossi, "Comparing Accounting Systems in Europe," in *Public Sector Accounting and Auditing in Europe: The Challenge of Harmonization*, I. Brusca, E. Caperchione, S. Cohen, and F. M. Rossi, Eds. New York: Palgrave Macmillan, 2015.

[37] C. Aranda, J. Arellano, and A. Davila, "Ratcheting and The Role of Relative Target Setting," *Account. Rev.*, vol. 89, no. 4, pp. 1197-1226, Jul. 2014, doi: 10.2308/accr-50733.

[38] A. Downs, "A Theory of Bureaucracy," *Am. Econ. Rev.*, vol. 55, no. 1, pp. 439-446, 1965.

[39] A. Downs, "Inside Bureaucracy." Little Brown Company, Boston, 1967.

[40] G. Brennan and J. M. Buchanan, "Towards A Tax Constitution For Leviathan," *J. Public Econ.*, vol. 8, pp. 255-273, 1977.

[41] G. Brennan and J. M. Buchanan, "Tax Instruments As Constraints On The Disposition Of Public Revenues," *J. Public Econ.*, vol. 9, no. December 1977, pp. 301-318, 1978.

[42] W. B. Alfonso, "Leviathan or Flypaper: Examining the Fungibility of Earmarked Local Sales Taxes for Transportation," *Public Budg. Finance.*, vol. 35, no. 3, pp. 1-23, 2015.

[43] A. Blais and S. Dion, "Are Bureaucrats Budget Maximizers? The Niskanen Model & Its Critics," *Polity*, vol. 22, no. 4, pp. 655-674, 1990.

[44] J. C. Garand, C. T. Parkhurst, and R. J. Seoud, "Bureaucrats, Policy Attitudes, and Political Behavior: Extension of the Bureau Voting Model of Government Growth," *J. Public Adm. Res. Theory*, vol. 1, no. 2, pp. 177-212, 1991.

[45] T. M. Lee and E. Plummer, "Budget Adjustments in Response to Spending Variances: Evidence of Ratcheting of Local Government Expenditures," *J. Manag. Account. Res.*, vol. 19, pp. 137-167, 2007, doi: 10.2308/jmar.2007.19.1.137.

[46] S. B. Megdal, "The Determination of Local Public Expenditures and the Principal and Agent Relation : A Case Study," *Public Choice*, vol. 40, no. 1, pp. 71-87, 1983.

[47] A. Rolle, "An Empirical Discussion of Public School Districts As Budget-Maximising Agencies," *J. Educ. Finance.*, vol. 29, no. Spring, pp. 277-298, 2004.

[48] W. A. Niskanen, *Bureaucracy and Representative Government*. Chicago: Aldine, Atherton, 1971.

[49] L. Sigelman, "The Bureaucrat as Budget Maximizer: An Assumption Examined," *Public Budg. Finance.*, vol. 6, no. 1, pp. 50-59, 1986.

[50] C. J. Bowling, C.-L. Cho, and D. S. Wright, "Establishing a Continuum from Minimising to Maximizing Bureaucrats," *Public Adm. Rev.*, vol. 64, no. 4, pp. 489-499, 2004.

[51] D. P. Moynihan, "Does Public Service Motivation Lead to Budget Maximization? Evidence from an Experiment," *Int. Public Manag. J.*, vol. 16, no. 2, pp. 179-196, 2013.

[52] J. E. Ryu, C. J. Bowling, C. L. Cho, and D. S. Wright, "Effects of Administrators' Aspirations, Political Principals' Priorities, and Interest Groups' Influence on State Agency Budget Requests," *Public Budg. Finance.*, vol. 27, no. 2, pp. 22-49, 2007.

[53] T. Arapis and C. Bowling, "From maximising to minimising: A national study of state bureaucrats and their budget preferences," *J. Public Adm. Res. Theory*, vol. 30, no. 1, pp. 144-160, 2020, doi: 10.1093/jopart/muz011.

[54] A. Feenberg, *The Philosophy of Praxis. Marx, Lukács, and The Frankfurt School*, no. October 2013. 2019.

[55] W. M. Foster and E. Wiebe, "Praxis Makes Perfect: Recovering the Ethical Promise of Critical Management Studies," *J. Bus. Ethics*, vol. 94, no. SUPPL. 2, pp. 271-283, 2010.

[56] R. P. Nielsen, "Organization Ethics from a Perspective of Praxis," *Bus. Ethics Q.*, vol. 3, no. 2, pp. 131-151, 2018.

[57] B. Brodjonegoro and J. Martinez-Vazquez, "An Analysis of Indonesia's Transfer System: Recent Performance and Future Prospects," in *Reforming Intergovernmental Fiscal Relations and the Rebuilding of Indonesia: The 'Big Bang' Program and its Economic Consequences*, J. Martinez-Vazquez, S. M. Indrawati, and J. Alm, Eds. Cheltenham Glos: Edward Elgar Publishing, 2005.

[58] J. Alm, R. H. Aten, and R. Bahl, "Can Indonesia Decentralise successfully? Plans, Problems and Prospects," *Bull. Indonesia. Econ. Stud.*, vol. 37, no. 1, pp. 83-102, 2001, doi: 10.1080/000749101300046537 To.

[59] J. Kornai, "The Soft Budget Constraint," *Kyklos*, vol. 39, no. 1, pp. 3-30, 1986.

[60] J. M. Parks, L. Ma, and D. G. Gallagher, "Elasticity in the 'Rules of the Game: Exploring Organisational Expedience," *Hum. Relations*, vol. 63, no. 5, pp. 701-730, 2010.

[61] C. Hood, H. Rothstein, and R. Baldwin, *The Government of Risk: Understanding Risk Regulation Regimes*. Oxford: Oxford University Press, 2001.

[62] N. Jackson and P. Carter, *Rethinking Organisational Behaviour. A Poststructuralist Framework*, Second. Pearson Education Limited, 2007.

[63] S. Lawrence and U. Sharma, "Commodification of Education and Academic Labour - Using the Balanced Scorecard in a University Setting," *Crit. Perspect. Account.*, vol. 13, no. 5-6, pp. 661-677, 2002.

[64] A. Mounier and P. Tangchuang, "Quality Issues of Education in Thailand," in *Education in Thailand: An Old Elephant in Search of a New Mahout*, Singapore: Springer, 2018, pp. 477-499.

[65] P. Smith, *Cultural Theory: An Introduction*, vol. 27, no. 2. Oxford, UK: Blackwell Publishing, 2001.

[66] B. F. Burke, "Altruism, Accountability, and Transparency: Cooperative Aspirations in Contemporary State-Level Budgeting,"

J. Public Budgeting, Account. Finance. Manag., vol. 18, no. 2, pp. 197-222, 2006.

[67] N. C. Dometrius and D. S. Wright, "Governors, Legislatures, and State Budgets across Time," *Polit. Res. Q.*, vol. 63, no. 4, pp. 783-795, 2010.

[68] D. Goodman and E. J. Clynch, "Budgetary Decision Making by Executive and Legislative Budget Analysts: The Impact of Political Cues and Analytical Information," *Public Budg. Finance.*, 2004.

[69] J. Dolan, "The Budget-Minimizing Bureaucrat? Empirical evidence from the Senior Executive Service," *Public Adm. Rev.*, vol. 62, no. 1, pp. 42-50, 2002.

[70] R. G. Holcombe, "Government Growth in the Twenty-First Century," *Public Choice*, vol. 124, no. 1/2, pp. 95-114, 2005.

[71] Vindry Florentin, "Evaluasi APBD, Kemenkeu Temukan Pemborosan Pemerintah Daerah - Bisnis Tempo.co," *Tempo.co*, 2017. https://bisnis.tempo.co/read/1036107/evaluasi-apbd-kemenkeu-temukan-pemborosan-pemerintah-daerah (accessed Aug. 29, 2021).

[72] L. H. Wiwoho, "Pemborosan Anggaran Masih Terjadi," *Kompas.com*, 2016. https://nasional.kompas.com/read/2016/02/09/15030051/Pemborosan.Anggaran.Masih.Terjadi?page=all (accessed Aug. 29, 2021).

[73] C. Iswinarno and N. Ardiansyah, "Influencer Diguyur Miliaran Rupiah, PKS: Pemerintah Cuma Pentingkan Citra," *suara.com*, 2020. https://www.suara.com/news/2020/08/21/123812/influencer-diguyur-miliaran-rupiah-pks-pemerintah-cuma-pentingkan-citra (accessed Aug. 29, 2021).

[74] B. Rahmat, "FITRA Riau: Pemborosan Rp 1,3 Triliun pada Rencana APBD Riau Tahun 2017," *Tribunnews*, 2017. https://m.tribunnews.com/regional/2017/01/19/fitra-riau-pemborosan-rp-13-triliun-pada-rencana-apbd-riau-tahun-2017?page=all (accessed Aug. 29, 2021).

[75] J. E. Russo, M. G. Meloy, and T. J. Wilks, "predecisional distortion of information by auditors and salespersons," *Manage. Sci.*, vol. 46, no. 1, pp. 13-27, 2000, doi: 10.1287/mnsc.46.1.13.15127.

[76] H. R. Arkes and C. Blumer, "The psychology of sunk cost," *Organ. Behav. Hum. Decis. Process.*, vol. 35, no. 1, pp. 124-140, 1985, doi: 10.1016/0749-5978(85)90049-4.

[77] D. Frey, "Recent research on selective exposure to information," *Adv. Exp. Soc. Psychol.*, vol. 19, no. C, pp. 41-80, 1986, doi: 10.1016/S0065-2601(08)60212-9.

[78] M. Nelson and H. T. Tan, "Judgment and decision making research in auditing: A task, person, and interpersonal interaction perspective," *Auditing*, vol. 24, no. SUPPL., pp. 41-71, 2005, DOI: 10.2308/aud.2005.24.supplement.41.

[79] S. E. Bonner, "Judgment and Decision Making Research in Accounting," 1999.

[80] J. C. Bedard and S. F. Biggs, "Pattern Recognition, Hypotheses Generation, and Auditor Performance in an Analytical Task," *Account. Rev.*, vol. 66, no. 3, pp. 622-642, 1991.

[81] J. R. Cohen, G. Krishnamoorthy, and A. M. Wright, "Evidence on the effect of financial and nonfinancial trends on analytical review," *Auditing*, vol. 19, no. 1, pp. 26-48, 2000, DOI: 10.2308/aud.2000.19.1.27.

[82] D. E. Hirst, L. Koonce, and S. Venkataraman, "Management earnings

forecasts: A review and framework," *Account. Horizons*, vol. 22, no. 3, pp. 315-338, 2008, doi: 10.2308/acch.2008.22.3.315.

[83] D. E. Hirst and L. Koonce, "Audit analytical procedures: A field investigation," *Contemp. Account. Res.*, vol. 13, no. 2, pp. 457-486, 1996, doi: 10.1111/j.1911-3846.1996.tb00511.x.

[84] L. Koonce and M. G. LIPE, "Earnings Trend and Performance Relative to Benchmarks: How Consistency Influences Their Joint Use," *J. Account. Res.*, vol. 48, no. 4, pp. 859-884, 2010, doi: 10.1111/j.1475-679X.2010.00377.x.

[85] W. F. Wright, "Discussion of A cognitive characterisation of audit analytical review," *Audit. A J. Pract. Theory*, vol. 12, no. Supplement, p. 79, 1993.

[86] V. Rybowiak, H. Garst, M. Frese, and B. Batinic, "Error Orientation Questionnaire (EOQ): Reliability, validity, and different language equivalence," *J. Organ. Behav.*, vol. 20, no. 4, pp. 527-547, 1999, doi: 10.1002/(SICI)1099-1379(199907)20:4<527::AID-JOB886>3.0.CO;2-G.

[87] S. Freud, "How past relationships," vol. 13, no. 12, pp. 608-609, 2000.

[88] J. Kennedy, "Debiasing Audit Judgment with Accountability : A Framework and Experimental Results Author (s): Jane Kennedy Published by : Wiley on behalf of Accounting Research Center, Booth School of Business, University of Chicago Stable URL : http://www.jstor.or," *J. Account. Res.*, vol. 31, no. 2, pp. 231-245, 1993.

[89] Raymond S. Nickerson, "Confirmation bias: a ubiquitous phenomenon in many guises," *Rev. Gen. Psychol.*, vol. 2, no. 2, pp. 175-220, 1998.

[90] A. H. Eagly and S. Chaiken, "The advantages of an inclusive definition of attitude," *Soc. Cogn.*, vol. 25, no. 5, pp. 582-602, 2007, doi: 10.1521/soco.2007.25.5.582.

[91] T. L. N. Emerson, S. J. Conroy, and C. W. Stanley, "Ethical attitudes of accountants: Recent evidence from a practitioners' survey," *J. Bus. Ethics*, vol. 71, no. 1, pp. 73-87, 2007, doi: 10.1007/s10551-006-9125-2.

[92] J. Shaftel and T. L. Shaftel, "The Influence of Effective Teaching in Accounting on Student Attitudes, Behavior, and Performance," *Issues Account. Educ.*, vol. 20, no. 3, pp. 231-246, 2005, doi: 10.2308/iace.2005.20.3.231.

[93] M. T. Bradshaw and K. Peterson, "The Interactive Role of Difficulty and Incentives in Explaining the Annual Earnings Forecast Walkdown," vol. 91, no. 4, pp. 995-1021, 2016, doi: 10.2308/accr-51398.

[94] J. L. Brown, S. Farrington, and G. B. Sprinkle, "Biased self-assessments, feedback, and employees ' compensation plan choices," *Accounting, Organ. Soc.*, vol. 54, pp. 45-59, 2016, doi: 10.1016/j.aos.2016.08.003.

[95] R. N. Schmidt, "The Effects of Auditors' Accessibility to "Tone at the Top" Knowledge on Audit Judgments," vol. 26, no. 2, pp. 73-96, 2014, DOI: 10.2308/bria-50824.

[96] J. E. Shipman, Q. T. Swanquist, and R. L. Whited, "Propensity Score Matching in Accounting Research," vol. 92, no. 1, pp. 213-244, 2017, doi: 10.2308/accr-51449.

[97] K. T. Trotman, "Design Issues in Audit JDM Experiments," vol. 192, no. August, pp. 181-192, 2001.

[98] T. D. Carpenter, J. L. Reimers, and R. College, "Professional Skepticism: The Effects of a Partner's Influence and the Level of Fraud Indicators on

Auditors' Fraud Judgments and Actions," vol. 25, no. 2, pp. 45-69, 2013, DOI: 10.2308/bria-50468.

[99] M. Donle, "Organizational Error Climate and Auditors' Predispositions toward Handling Errors," *Behav. Res. Account.*, vol. 23, no. 2, pp. 69-92, 2011, doi: 10.2308/bria-10061.

[100] T. Jeffrey, "Predecisional distortion of evidence as a consequence of real-time audit review," 2002.

[101] S. E. Kaplan, K. R. Pope, and J. A. Samuels, "Intentions to Report Fraud to a Manager," vol. 27, no. 2, pp. 77-94, 2015, doi: 10.2308/bria-51126.

[102] W. R. Knechel, G. V Krishnan, M. Pevzner, L. B. Shefchik, and U. K. Velury, "Audit Quality: Insights from the Academic Literature," vol. 32, no. April 2012, pp. 385-421, 2013, DOI: 10.2308/ajpt-50350.

[103] G. Liu, "Gathering Evidence through Enquiry :" *Behav. Res. Account.*, vol. 24, no. 2, pp. 153-175, 2012, doi: 10.2308/bria-10271.

[104] B. Pierce and B. Sweeney, "Perceived Adverse Consequences of Quality Threatening Behaviour in Audit Firms," i*nternational J. Audit.*, vol. 39, pp. 19-39, 2006.

[105] D. Satava, C. Caldwell, L. Richards, D. Satava, and L. Richards, "Ethics and the Auditing Culture : the Foundation Rethinking and Auditing of Accounting," vol. 64, no. 3, pp. 271-284, 2011, doi: 10.1007/sl0551-005-0556-y.

[106] P. Cramer, "Defense Mechanisms : 40 Years of Empirical Research," no. August, pp. 37-41, 2014, doi: 10.1080/00223891.2014.947997.

[107] S. J. Harrington, "A test of a person - Issue contingent model of ethical decision making in organisations," *J. Bus. Ethics*, vol. 16, no. 4, pp. 363-375, 1997, doi: 10.1023/A:1017900615637.

[108] Z. S. Yadin, "Analysing the Patient's First Name in the Search for Identity," *Contemp. Psychoanal.*, vol. 52, no. 4, pp. 547-577, 2016, doi: 10.1080/00107530.2016.1235461.

[109] E. Singer, "Transference and Parataxic Distortion," vol. 7530, no. June, 1993, doi: 10.1080/00107530.1993.10746818.

[110] M. W. Nelson, C. A. Proell, and A. E. Randel, "Team-Oriented Leadership and Auditors' Willingness to Raise Audit Issues," vol. 91, no. 6, pp. 1781-1805, 2016, doi: 10.2308/accr-51399.

[111] J. S. Pickerd, S. L. Summers, and D. A. Wood, "An Examination of How Entry-Level Staff Auditors Respond to Tone at the Top `-vis Tone at the Bottom vis-a," vol. 27, no. 1, pp. 79-98, 2015, doi: 10.2308/bria-50918.

[112] B. Sweeney, D. Arnold, and B. Pierce, "The impact of perceived ethical culture of the firm and demographic variables on auditors' ethical evaluation and intention to act decisions," *J. Bus. Ethics*, vol. 93, no. 4, pp. 531-551, 2010, doi: 10.1007/s10551-009-0237-3.

[113] J. J. Geller, "Parataxic Distortions in the Initial Stages of Group Relationships," vol. 7284, 2015, doi: 10.1080/00207284.1962.11508231.

[114] C. H. Shubs, "Transference Issues Concerning Victims of Violent Crime and Other Traumatic Incidents of Adulthood," *Psychoanal. Psychol.*, vol. 25, no. 1, pp. 122-141, 2008, doi: 10.1037/0736-9735.25.1.122.

[115] M. Barrett, D. J. Cooper, and K. Jamal, "Globalization and the coordinating of work in multinational audits," *Accounting, Organ. Soc.*, vol. 30, no. 1, pp. 1-24, 2005, doi: 10.1016/j.aos.2004.02.002.

[116] M. Willekens and H. Vander Bauwhede, "Auditor Reporting Conservatism as a Defence Mechanism against Increased post-Enron Litigation Risk," no. January 2004, 2014.

[117] E. M. Bamber and V. M. Iyer, "Auditors' identification with their clients and its effect on auditors' objectivity," *Auditing*, vol. 26, no. 2, pp. 1-24, 2007, DOI: 10.2308/aud.2007.26.2.1.

[118] M. J. Meyer, J. T. Rigsby, and J. Boone, "The impact of auditor-client relationships on the reversal of first-time audit qualifications," *Manag. Audit. J.*, vol. 22, no. 1, pp. 53-79, 2007, doi: 10.1108/02686900710715648.

[119] P. M. Fernbach, Y. Hagmayer, and S. A. Sloman, "Effort denial in self-deception," *Organ. Behav. Hum. Decis. Process.*, vol. 123, no. 1, pp. 1-8, 2014, doi: 10.1016/j.obhdp.2013.10.013.

[120] J. Friedrichs, "Useful lies: The twisted rationality of denial," *Philos. Psychol.*, vol. 27, no. 2, pp. 212-234, 2014, doi: 10.1080/09515089.2012.724354.

[121] E. Trunnell and W. E. Holt, "The Concept of Denial and Disavowal," *J. Am. Psychoanal. Assoc.*, vol. 22, no. 4, pp. 769-784, 1974.

[122] R. L. Buckner and D. C. Carroll, "Self-projection and the brain," vol. 11, no. 2, 2006, doi: 10.1016/j.tics.2006.11.004.

[123] P. D. Harms, A. J. Vanhove, and F. Luthans, "Positive Projections and Health : An Initial Validation of the Implicit Psychological Capital Health Measure Positive Projections and Health :" 2017, DOI: 10.1111/apps.12077.

[124] B. K. Payne, "Stereotypes Focus Defensive Projection," vol. 1, 2005, DOI: 10.1177/0146167205285556.

[125] C. M. Stefaniak, R. W. Houston, and R. M. Cornell, "The effects of employer and client identification on internal and external auditors' evaluations of internal control deficiencies," *Auditing*, vol. 31, no. 1, pp. 39-56, 2012, DOI: 10.2308/ajpt-10179.

[126] S. M. Andersen, R. Tuskeviciute, and E. Przybylinski, "Coherent variability: The self with significant others in memory and context," *Soc. Cogn.*, vol. 35, no. 2, pp. 107-123, 2017, doi: 10.1521/soco.2017.35.2.107.

[127] S. M. Andersen and J. S. Thorpe, "An IF-THEN theory of personality: Significant others and the relational self," *J. Res. Pers.*, vol. 43, no. 2, pp. 163-170, 2009, doi: 10.1016/j.jrp.2008.12.040.

[128] T. J. Perfect and L. J. Harris, "Adult age differences in unconscious transference : Source confusion or identity blending ?" vol. 31, no. 4, pp. 570-580, 2003.

[129] S. M. Andersen and M. S. Berk, "Transference in Everyday Experience : Implications of Experimental Research for Relevant Clinical Phenomena," vol. 2, no. 1, pp. 81-120, 1998.

[130] J. Svanberg, P. Öhman, and P. E. Neidermeyer, "Auditor objectivity as a function of auditor negotiation self-efficacy beliefs," *Adv. Account.*, vol. 44, no. January, pp. 121-131, 2019, doi: 10.1016/j.adiac.2018.10.001.

[131] J. Svanberg and P. Ohman, "Auditors ' identification with their clients : Effects on audit quality," vol. 47, 2015, doi: 10.1016/j.bar.2014.08.003.

[132] S. Dawood and A. Pincus, "Contemporary integrative interpersonal theory of personality," no. June, 2018.

[133] A. P. Brief, J. M. Dukerich, and L. I. Doran, "Resolving Ethical Dilemmas

in Management: Experimental Investigations of Values, Accountability, and Choice," *J. Appl. Soc. Psychol.*, vol. 21, no. 5, pp. 380-396, Mar. 1991, doi: 10.1111/j.1559-1816.1991.tb00526.x.

[134] F. T. DeZoort and A. T. Lord, "A Review and Synthesis of Pressure Effects Research in Accounting," *J. Account. Lit.*, vol. 16, pp. 28-85, 1997, Accessed: Oct. 26, 2018. [Online]. Available: https://search.proquest.com/openview/8e9eb137bf01a22e74892170d5ca251d/1?pq-origsite=gscholar&cbl=31366&casa_token=l95Z2uomsssAAAAA:O8V_VTb_gJwxZUQbEBQWvkiqTpQRdgFpt9aEYhl5CdffaP2KFQosX9UA7noVIhzyaSXjHBpZIw.

[135] Y. F. Gong, S. Kim, and N. Harding, "Elevating professional scepticism an exploratory study into the impact of accountability pressure and knowledge of the superior's preferences," *Manag. Audit. J.*, vol. 29, no. 8, pp. 674-694, Aug. 2014, doi: 10.1108/MAJ-08-2013-0914.

[136] H. F. Buchan, "Ethical Decision Making in the Public Accounting Profession : An Extension of Ajzen ' s Theory of Planned Behavior," *J. Bus. Ethics*, vol. 61, pp. 165-181, 2005, doi: 10.1007/s10551-005-0277-2.

[137] M. Ann, D. Stephen, and J. E. Blanton, "Social Cognitive Theory : The Antecedents and Effects of Ethical Climate Fit on Organizational Attitudes of Corporate Accounting Professionals — A Reflection of Client Narcissism and Fraud Attitude Risk," *J. Bus. Ethics*, pp. 453-467, 2015, doi: 10.1007/s10551-014-2210-z.

[138] M. Mansouri and J. I. A. Rowney, "The Dilemma of Accountability for Professionals: A Challenge for Mainstream Management Theories," *J. Bus. Ethics*, vol. 123, no. 1, pp. 45-56, 2014, doi: 10.1007/s10551-013-1788-x.

[139] A. Musbah, C. J. Cowton, and D. Tyfa, "The Role of Individual Variables, Organisational Variables and Moral Intensity Dimensions in Libyan Management Accountants' Ethical Decision Making," *J. Bus. Ethics*, vol. 134, no. 3, pp. 335-358, 2016, doi: 10.1007/s10551-014-2421-3.

[140] T. D. Komalasari, "PT Garuda Indonesia Tercatat Raih Laba, Sebenarnya Mengalami Kerugian," *Pikiran rakyat.com*, 2019. https://www.pikiran-rakyat.com/ekonomi/pr-01314448/pt-garuda-indonesia-tercatat-raih-laba-sebenarnya-mengalami-kerugian (accessed Aug. 29, 2021).

[141] A. Martin and Sukmana, "Dicecar DPR soal Rugi Rp 38 Triliun, Ini Kata Bos PLN Halaman all - Kompas.com," *Kompas.com*, 2020. https://money.kompas.com/read/2020/06/25/160606426/dicecar-dpr-soal-rugi-rp-38-triliun-ini-kata-bos-pln?page=all (accessed Aug. 29, 2021).

[142] C. Akbar, "Kerugian Jiwasraya Lebih dari Rp 10T Akibat Salah Investasi Saham," *Tempo.co*, 2020. https://bisnis.tempo.co/read/1292772/kerugian-jiwasraya-lebih-dari-rp-10t-akibat-salah-investasi-saham (accessed Aug. 29, 2021).

[143] Daryono and C. Umam, "Pertamina Rugi Rp 11,327 Triliun: Pernyataan Ahok Disorot hingga Tanggapan Pengamat Migas," *Tribunnews.com*, 2020. https://www.tribunnews.com/bisnis/2020/08/26/pertamina-rugi-rp-11327-triliun-pernyataan-ahok-disorot-hingga-tanggapan-pengamat-migas?page=3 (accessed Aug. 29, 2021).

[144] I. E. S. Ebaid, "International accounting standards and accounting quality in code-law countries: The case of Egypt," *J. Financ. Regul. Compliance*, vol. 24, no. 1, pp. 41-59, Feb. 2016, doi: 10.1108/JFRC-12-2011-0047.

[145] M. E. Barth, W. R. Landsman, and M. H. Lang, "International accounting standards and accounting quality," *J. Account. Res.*, vol. 46, no. 3, pp. 467-498, 2008, doi: 10.1111/j.1475-679X.2008.00287.x.

[146] J. Kokina and T. H. Davenport, "The Emergence of Artificial Intelligence: How Automation is Changing Auditing," *Emerg. Technol. Account.*, vol. 14, no. 1, pp. 115-122, 2017, doi: 10.2308/jeta-51730.

[147] K. Omoteso, "The application of artificial intelligence in auditing: Looking back to the future," *Expert Syst. with Appl. J.*, vol. 39, pp. 8490-8495, 2012, doi: 10.1016/j.eswa.2012.01.098.

[148] I. Munoko, H. L. Brown-Liburd, and M. Vasarhelyi, "The Ethical Implications of Using Artificial Intelligence in Auditing," *J. Bus. Ethics*, vol. 167, no. 2, pp. 209-234, Nov. 2020, doi: 10.1007/S10551-019-04407-1.

[149] N. Chabrak, "The politics of transcendence: hermeneutic phenomenology and accounting policy," *Crit. Perspect. Account.*, vol. 16, no. 6, pp. 701-716, Aug. 2005, doi: 10.1016/J.CPA.2004.03.003.

[150] D. Kahneman, D. Lovallo, and O. Sibony, "The Big Idea: Before You Make That Big Decision," *Harv. Bus. Rev.*, vol. 89, no. 6, pp. 50-60, 2011.

[151] J. S. Hammond, R. L. Keeney, and H. Raiffa, "The Hidden Traps in Decision Making," *Harv. Bus. Rev.*, vol. 76, no. 5, pp. 47-58, 1998, Accessed: Aug. 31, 2021. [Online]. Available: www.hbr.org.

[152] M. H. Bazerman and D. A. Moore, *Judgmental in Managerial Decision Making*. 2013.