IJBPAS, August, 2015, 4(8), Special Issue: 569-582

ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

STRUCTURAL EQUATION MODELING THE EFFECTS OF THE ANTECEDENTS OF THE USE OF CONTINUOUS AUDITING IN THE INTERNAL AUDITING CONTEXT IN INSURANCE COMPANIES

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ABSTRACT

The studies show that despite the progress made, the continuous auditing system is not still widely used. Therefore in the present investigation, different views of internal auditors were examined about the current position of employing the continuous auditing technology in companies to determine what factors were effective on the motivation of internal auditors to use continuous auditing. To achieve this goal (Investigating effective factors on the motivation of internal auditors to use continuous auditing) four main theories were projected. With regard to the assumptions and the realm of study (which included insurance companies active in Iran) and time (2015), the data needed were collected by researcher by the use of library and experimental study methods.(150 questionnaires were distributed among auditors, auditing managers,…). For data analysis, SPSS and Eviews software applications were used. Data analysis showed that among the factors studied, "hope to improve efforts" is the only factor which doesn't affect the motivation of internal auditors. Other factors (hope to improve performance, hope for improving working conditions and social influence) are the effective factors on the motivation of internal auditors in employing the continuous auditing. So it can be concluded that there is a meaningful relationship between hope to improve performance, hope for improving working conditions and social influence and the motivation of internal auditors in using continuous auditing.

Key words: internal auditing, continuous auditing, performance improvement, improvement of working conditions, social influence

Statement of the problem

Accountability to the public, is necessary to implement the democratic process, but is one of the main tools for accountability in economic activities, the auditing and accountability. In fact, audit and accountability in the monitoring of any system is used in place and widely from the highest level of governance to the smallest business unit, for each system in order to be durable, monitoring and feedback is needed, despite the extent of the audit work - according to necessity - to determine the remuneration of the service in our country, not based on a scientific model of a defensible and rationale cannot be said this is due to the characteristics of the entity, with what costs happens. (Nickbakht and Thanaei, 2010)

In any organization, management is responsible for the internal control system. Because is that the answer to the origins of human rights in the fields and at different levels across the world. And internal audit, is one of the most important internal controls that are used in most developed countries and large companies, which can have a significant effect on the needs of the users of the results of its operations. One of the most important users are independent of the results of internal auditors, auditors that the acquisition of knowledge and the decision on the basis of the results of their work, affected various aspects of independent auditing of the operations, one of the aspects of the audit is different parts are self-contained (Hussein *et al*., 2008)

So consider the factors and factors affecting the use of continuous auditing system based on internal audit and insurance companies the internal audit function is a function of these factors and assumptions that is why the study of a structural analysis approach based on structural equation modeling to analyze factors associated with the use of continuous auditing system will be used based on internal audit the insurance companies.

Theoretical foundations

Internal audit

Internal audit based - risk assessment focus on the evaluation of strategic business process and process objectives, risks and controls. Internal audit to identify, assess and monitor the risk of the company, helps to ensure that sufficient resources and that they are focused on priorities.

In general, risk-based audit, assesses the area of risk and, most importantly, continuous risk assessment is

conducted. Sawyer and Vinten (1996) pointed out that the four interest income managers, internal auditors are:

1) They make available the basis for operations and judge to managers.

2) They help managers through the report on internal control weaknesses and suggestions to improve it.

3) They advice managers in the solution business unit managers and the board.

4) They provide reliable, useful and timely information to all levels of management.

Risk-based internal audit

Risk-based internal audit is concentrated to assess the commercial and strategic processing (Gronli, M.J. and Xystros, C., 1999), Lorenzo, 2001; (Campbell et al., 2006) and to evaluate the objectives, risks and controls is a must for the success of an organization, one and the same join (Rivenbark, 2000). Internal audit helps to identify, assess and monitor the risk of the company, to ensure that sufficient resources and that they are focused on priorities (Kunkel, 2004). In general, risk-based audit, assess high-risk areas (Griffiths, 2006) and, most importantly, it runs the risk of continuous evaluation (Maynard, 1999; Marx, 2001; Organ, 2002). Recognizing that the annual risk assessment and risk assessments conducted at the beginning of each audit, should be shared with management and the board of directors (Jackson, 2005).

In a study by IIA – UK and Ireland (2003), was conducted in Ireland, the result was that 89 percent of heads of internal audit, when preparing the annual internal audit plans, using risk-based approach; 93% of the allocation of risk-based internal audit procedures used; 81 percent of the program to its audit heads of business units or departments, meeting; 72 percent of its work done along with standards; 32% responsible for risk management or compliance. They concluded that although a large proportion of organizations, will adopt best practice, there is still room for improvement.

Literature review

Hasas and Dadashi (2010) investigated the effect of corporate governance and risk and planning decisions auditors. Results showed that the percentage of outside directors on the board of directors, has been effective on the inherent risk assessment by auditors.

Etemadi and Shafa (2011) have studied the effect of free cash flow and profit management the role of the audit committee. Many studies were done on the relationship between earnings

management and free cash flow, based on Jensen's theory (1986). The results suggest that a direct relationship exists between earnings management and free cash flows. In other words, corporate free cash flows can be considered a stimulus for management profit was also found that companies with audit committees of other companies have the benefit of better and the Audit Committee and the relationship between control and free cash flows were paid The relationship between the audit committee and the free cash flow and earnings management is found however, free cash flow, firm size and total accruals there is a direct relationship.

Hajiha (2010) examined the relationship between inherent risk and controlling the risk-based audit approach. Assessing method of auditing risk may be planning evaluation, audit and subsequent planning strategies affect the final results. Auditing standards, risk assessment is required based on audit risk model. This study examined the relationship between levels of inherent and control risks. The sample of auditors randomly selected members of the association of certified accountants using a questionnaire, the importance of each of the factors influencing the inherent risks and control classes was measured. The results show that the relationship does not exist between inherent risk and control and a separate assessment of the risks is preferred to the integrated assessment of the audit environment.

Ahmadpour et al (2010) studied the effect on corporate governance and audit quality Cost through debt borrowing. This study empirically refers to the impact of corporate governance and audit quality in the cost of crediting companies accepted in Tehran Stock Exchange. Our empirical findings using data from 119 companies listed companies of the Tehran Stock Exchange between 2003 to 2008 and combined data regression analysis using the software Eviews, shows that major institutional investors among shareholders and efficient monitoring of a significant reduction effect in the cost of debt is a sample of companies while the quality of the audit has not such an effect.

Ansari and Shafi'i (2009) investigated the effect of variable internal audit and audit program. One of the aspects is their audit plan, which will include different parts. In this study, an attempt is made to use the analytical method and the type of change is determined for

these changes. The results show that independent auditors rely on the results of the work of internal auditors and this reduces reliance on local budgets and time in the audit plan.

Henock Louis (2005) showed that the larger audit firms will present usually better services to smaller enterprises. But when it was found that smaller audit firms can provide to clients in their best advice.

Kim et al (2003) have shown that large differences in the effectiveness of large audit firms and small derives from incentive conflict between managers and auditors report. When managers have enough incentive to increase profits using accounting methods to increase their profits, maintain neutrality auditors, it is a leading the incidence of conflict between managers and auditors. They found large audit firms to prevent manipulation of profit, have more effective for small businesses given the contradiction between the management and the auditors.

Henock Louis in 2005, in his research examines the relationship between service quality and size of audit firms and auditors, and found large audit firms do not offer always better service than smaller companies.

Baud & Wilkins (2004), two Belgian researchers measured the effects of an auditing firm to audit quality in Belgian market and the sub- audit such as auditor's market share, number of clients and have an auditing firm. Finally, the results of their research showed that there is not a significant relationship between the auditor and audit quality.

Study and evaluation of internal control system as a part of a test audit is affected by internal auditors as an important element of the internal control system.

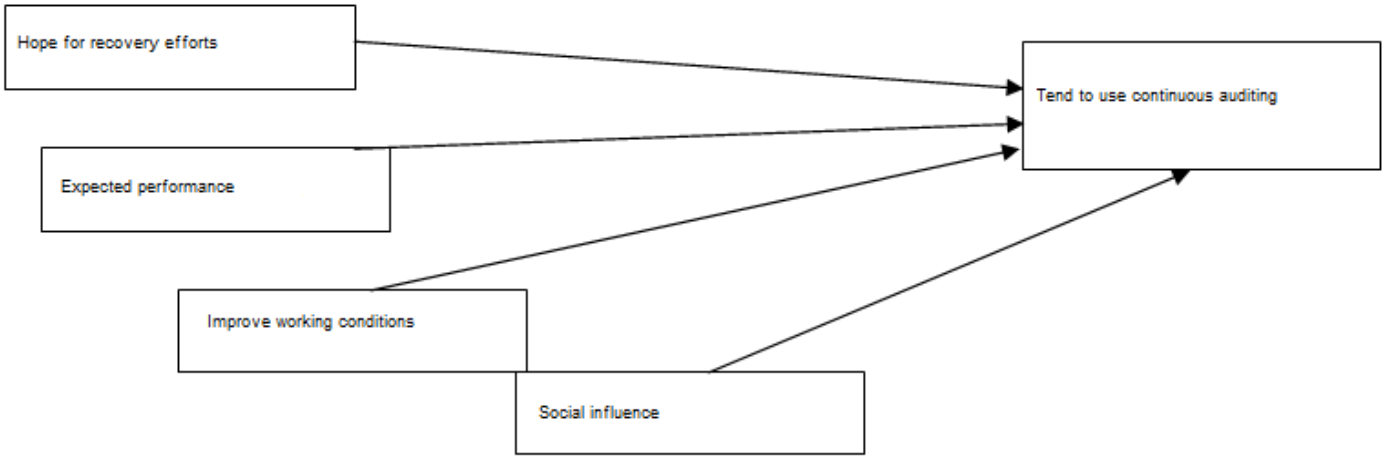
For long years, the internal auditor was raised only as a secondary source for independent accountant. But then in the twentieth century, internal audit in the United States began to change. Various industries expand their audit programs, and in 1941, formed the Association of Internal Auditors and internal auditing was announced as a part of an independent audit.

METHODOLOGY

The research method is field methodology. The population of this study were all active Iran insurance companies. The study is also in Tehran, Iran Insurance Company Insurance companies dealing with real data. In this study, snowball sampling was used in

which a participant in our study is guided to other participants or snowball guide Iranian insurance companies to provide information with respect to variables, there is access to production and distribution of the questionnaires will be used and Excel and SPSS data processing software will be used and LISREL will be used for structural equation modeling software.

Conceptual model



Structural equation modeling

Structural equation modeling (SEM) is a very strong family multivariate regression multivariate analysis that the general linear model GLM allows the researcher a set of regression equations simultaneously test and is used for analysis the data: Analysis of covariance structural equation modeling can be done using LISREL structural linear relationships. LISREL technique is a mixture of the analysis of the names of confirmatory factor analysis and path analysis (structural model). The confirmatory factor analysis is to assess the relationship between all variables (questionnaire items) and latent variables (human capital, customer and structural) that takes place by identifying relevant structures latent variables (factors derived). In other words, structural equation modeling indicates that the hidden variables associated with observable variables, and is measured using them. The model indicates that how much of each index includes the concept of hidden variable dimensions. The structural model only explain causal relationships between hidden variables. In other words, the objective is to explore the direct and indirect effects of exogenous and endogenous latent variables. General structural models and LISREL

measurement model technique is about equation 1. (Klein, 1998)

$$\eta = B\eta + \Gamma\xi + \zeta \qquad \begin{cases} y = \Lambda_y \eta + \varepsilon \\ x = \Lambda_x \xi + \delta \end{cases} \qquad (1)$$

$$E(\zeta) = 0; \quad COV(\zeta) = \Psi \qquad E(\varepsilon) = 0; \quad C(\varepsilon) \qquad E(\delta) = 0; \quad C(\delta)$$

Modeling with this technique is conducting in five stages: model identification, model estimation, assessment model, and correcting model. According to previous studies, the symbol matrix theoretical reasoning research model expressed by Equation (2)

$$\begin{cases} p_i = \lambda_{p_i} \eta_{Per} + \theta_{\varepsilon_i} & i = 1,\ldots,10 \\ h_i = \lambda_{h_i} \xi_H + \theta_{\delta_i} & i = 1,\ldots,20 \\ c_i = \lambda_{c_i} \xi_C + \theta_{\delta_i} & i = 1,\ldots,17 \\ s_i = \lambda_{s_i} \xi_S + \theta_{\delta_i} & i = 1,\ldots,16R \end{cases}$$

$$\eta_{Per} = \alpha + \gamma_H \xi_H + \gamma_S \xi_S + \gamma_C \xi_C + \phi_{HC}$$

The purpose of creating a model of integration between the sample variance matrix (S), with the covariance matrix ($\Sigma(\theta)$) and then to minimize the waste matrix, it means the difference between S and $\Sigma(\theta)$. Assuming that the error terms of latent variables in question are normally distributed, find the maximum likelihood estimates of free parameters in the model, the equivalent of about 3 to minimize the function.

$$F_{ML}[S, \Sigma(\theta)] = \log|\Sigma(\theta)| + tr(S\Sigma^{-1}(\theta)) - \log|S| - (3)$$

In the above formula, total tr of diagonal elements of the matrix and $W = \Sigma - 1$, p and q is the number of observed variables related to endogenous and exogenous latent variables. The p + q is the total number of observed variables. Evaluation of the model obtained by comparing the estimated covariance matrix for the (model) and sample covariance matrix (based on observed data) ($s - \Sigma(\theta)$). The most important factors that explain the variance fitness structural linear relationships.

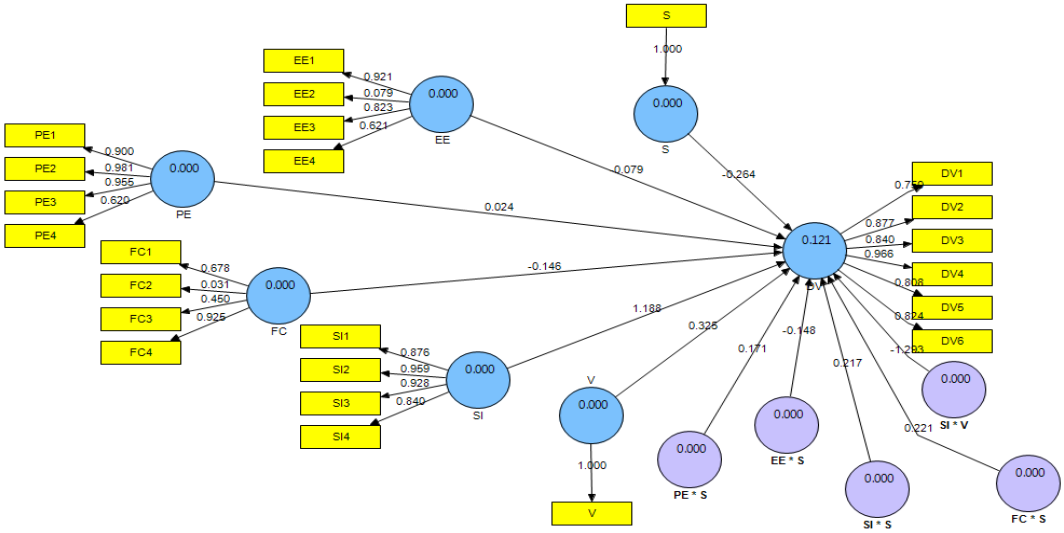
Structure model fitting

After checking the fit of models to measure the time, it is the turn of research structure model fitting. In this section we discuss the hidden variables associated with the relationship between them.

Benchmark significant factor z:

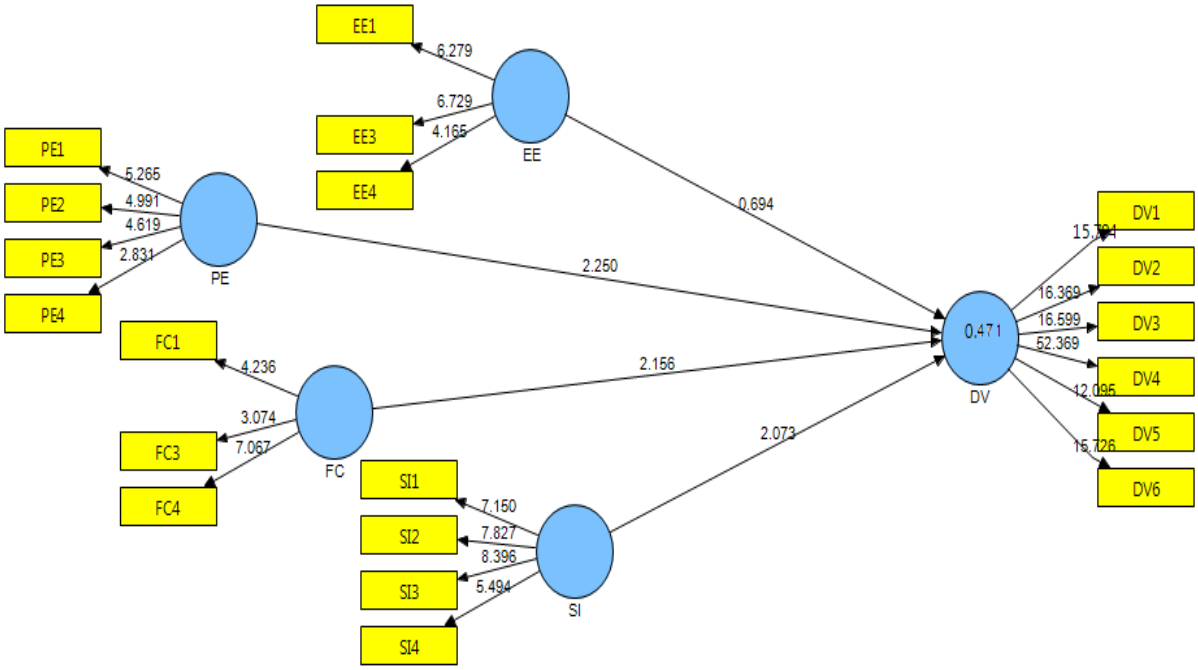
Using significant coefficients z, we examined application fitting of the two variables influence the use of "voluntary (v)" and "income level (s)" on the relationship between the variables. The results of standardized coefficients and significant coefficients of the moderator variables is presented in the following

table. Variables that their significant coefficient is less than 1.96 cannot be confirmed at the level of 95 percent.



FC*S	PE*S	EE*S	SI*S	SI*V	adjustment variable
0.221	0.171	-0.148	0.217	-1.293	Severity of the impact
0.670	0.345	0.201	1.099	0.313	Significant factor z) t-value(

As seen in the table above all coefficients are less than 1.96, so we can conclude that none of the variables do not have a significant moderating effect on the relationship between hidden variables. Hence to have an authentic model, the effect of moderator variables should be deleted. As a result, the remaining coefficients z for the model is as follows that the results are summarized in Table 1 as follows:



SI	FC	PE	EE	Variables
2.073	2.156	2.25	0.694	(t-value) Significant factor z
				R^2

Table 1

As specified in Table 1 except for the variable EE, all coefficients are higher than 1.96, which shows the significance of directions and appropriate structural model.

R^2 critarion:

The second criteria used in this study to evaluate the structure model fitting, the coefficient R2 of hidden variables endogenous (dependent) model. Their values as shown in Table (1) is equal to 0.47 indicates appropriate structure model fitting shows that about 47% the amount. Also coefficient of variance explained by the model.

General model fitting

The general model includes both the measurement model and the structural and confirmation, and confirming its fitting, to determine the fitting of model is complete. GOF criteria is used to evaluate the general model fitting. Which is calculated by the following formula:

$$GOF = \sqrt{\text{average values shared} * R^2}$$

Variables	DV	EE	FC	PE	SI	Mean	R2	GOF
Shared Amounts	0.7172	0.7003	0.6028	0.7669	0.8138	0.7202	0.47	0.5818

As seen in the above table, mean values are calculated and coefficient of determination are 0.72 and 0.47 respectively. Obtained results of calculation of the GOF (of 0.58) showed good fit and approval of the overall model.

Hypothesis

Results of regression analysis of partial least squares (PLS) is provided in Table 18-4. In relation to H1, observed in 5% error level hope to improve the effectiveness of efforts to incentives for the use of continuous auditing is not approved. The 95 percent confidence level can be confirmed that hoping to improve the performance of internal auditors in the use of continuous auditing motivated and positive correlation (b = 0.17 and statistic z = 2.25> 1.96).

Hypothesis 3 is also determined at the level of 95 percent since the statistic z is more than 1.96 (Statistic z = 2.16). But the remarkable thing about this theory is that on the contrary, we hope to improve the relationship between working conditions with an internal audit on the use of continuous auditing is negative (b = -0.20).

Reviews of hypothesis 4 shows that there is a significant positive correlation between social influence and motivation among internal auditors in the use of continuous auditing (b = 0.13 and statistic z = 2.07> 1.96).

Table 2

Test result	T-statistics	Path coefficient	Hypothesis
Rejected	0.69	0.06	Hypothesis 1: Improve the hope of targeted efforts on internal auditors tend to use continuous auditing has a positive effect.
confirmed	2.25	0.17	Hypothesis 2: hopes to improve working conditions on the use of continuous auditing internal auditors tend have a positive impact.
confirmed	2.16	0.20	Hypothesis 3: hopes to improve working conditions on the use of continuous auditing internal auditors tend have a positive impact.
confirmed	2.07	0.13	hypothesis 4. hope to improve the social impact of internal auditors tend to use continuous auditing has a positive effect.

Research limitations

Due to geographical distribution across the country and auditors there are many problems regarding access for them to distribute the questionnaire, population only Iranian officials and members of audit institutions accountants some companies have independent internal audit unit was limited in Tehran. So users of the present study suggest that take the necessary precautions in applying the results of research.

CONCLUSION

The first hypothesis given that the standardized coefficients z (Statistic z = 0.06) is less than 1.96 so 95 percent of H1 is not confirmed, and we can say that there is no significant relationship between the effort and hope to improve motivated by internal auditors in the use of continuous auditing.

The second hypothesis given that the t-statistic is equal to 2.25, which is higher than 1.96. Therefore, we can conclude that there can be found in the 95 percent confidence level a significant relationship between the variables of hope and motivation to improve the performance of internal auditors is accepted and this is a positive relationship. The coefficient of 0.17 indicates that the variable impact with the increase in the variable unit hopes to improve incentives for internal auditors the use of continuous auditing increases about 17 units.

The third hypothesis given that the t-statistic for the variable "Hope to improve working conditions "is equal to 2.16, because it is much more than the significant threshold, the number is 1.96, thus, so we can claim that at 95 percent, there is a significant relationship between hopes to improve working conditions and motivated by internal auditors in the use of continuous

auditing system and is accepted. But contrary to what we expected it is a negative relationship. This means that if an increase of one unit in the hope of improving working conditions, 20 units decreases internal auditors' motivation.

The fourth hypothesis, according to the statistics t (t-value = 2.07) and coefficient standard 0.13, it can be concluded that the 5% error level, there is a significant and positive relationship between social influence and the desire auditors to use continuous auditing. It can be said that as a hope to improve the effectiveness of social, motivated auditors to use continuous auditing system will increase 13 units.

In this study, internal auditors' views on the current state of technology of continuous auditing the companies were evaluated and provided answers to the problem of research. Through the analysis of questionnaire responses sense that, hoping to improve performance, hoping to improve working conditions and social influence factors affecting motivation is internal auditors in the use of continuous auditing system. The results of the study (Gonzalez et al., 2012) is consistent.

The three key factors that influence internal auditors believe, with the use of continuous auditing system, increase the company's interest as continuous auditing to analyze and model data, the risk of fraud and error detection and thereby reduce to improve the system of internal controls. These findings (venkatesh et al., 2003) compatible.

According to the results (Gonzalez et al., 2012), we found that the views of others about the use of continuous auditing is important for internal auditors. (To the others who are affected internal auditors or internal auditors.)

Recommendations for future research

- It can be examined other qffecting factors, such as computer technology and online reporting as well as the motives of Internal Auditors the use of continuous auditing.
- If the mediator can modify variables such as firm size, growth and financial leverage, which may increase the effects of factors studied in this research helped to bring the model can be considered and evaluated.
- It can be examined to establish continuous auditing system to members of the Official Auditors.
- It cqn be provided to implement continuous auditing systems in

countries that in terms of the economic system similar compare with Iran and suggestions to improve and facilitate its implementation in the country.

- It can be provided to establish a continuous audit system due to economic conditions and the technical infrastructure of the country evaluated qnd check that the conditions governing can local companies continuous auditing system to be fully implemented in the country or not, recommendations are presented to facilitate its implementation.

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