

## From Not-So-Good, To Good, To Great, and Beyond: An Empirical Analysis of an Illustrative Field Example

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### ABSTRACT

Good-to-great does happen, but “*what about ‘not-so-good’?*” The current article extends the research on Collins’ seminal study, “*Good-to-Great*,” and asks, and answers, the question, “*Can a ‘Not-so-Good’ company become a great company, and if so, how?*” This research proposes a theoretical framework to explain the relationship between a “consistent pattern of decisions and actions” and financial performance, and then tests this framework, in a field experiment, on privately-held, Tier One Automotive Supplier. It views the performance of the company, through the lens of the *Neoclassical Theory* of the Firm, the *Principal-Agent Theory* of the Firm, and the *Theory of Constraints*. The *Neoclassical Theory* establishes the principal of profit, or value, maximization, while the *Principal-Agent Theory* extends the profit maximization principal by adding agents, or economic actors. The *Theory of Constraints*, developed by Eliyahu M. Goldratt, presents a system-level management philosophy, for ongoing improvement. Using the combination of these theories, as a referent theoretical base to explain the trajectory of operational and financial performance of the focal company, this research seeks to provide insight on the firm’s success in achieving and sustaining great results. Findings indicate support for correlation, causation, and possible generalizability to other firms, and time periods.

Keywords: Continuous Improvement, Financial Performance, Synchronous Management, Theory of Constraints.

## 1 INTRODUCTION

“*Can a ‘not-so-good’ company become a great company, and, if so, how?*” That is a question that has rarely been posed, and answered even less, if at all. This question is relevant to all companies— small, medium, and large, public and private, and for-profit and not-for-profit. There are all kinds of companies— some “great,” some “not-so-great,” some “good,” and some “not-so-good.” What’s common with all of these companies is that they face significant challenges.

There are major trends impacting today’s operating environment. Business leaders are faced with slow economic growth, globalization, ongoing technological change, and changes in availability and amount of data they have to process. These challenges make it difficult for business leaders to navigate their firm in this uncertain environment. One solution to overcoming these challenges is for business leaders to get everyone in the firm to go in the same direction. That is, following the old adage of “getting the right people on the bus, getting the wrong people off the bus, and getting everyone in the right seat.” This can be accomplished by aligning individual decisions and actions, with the objectives and goals of the firm.

## 2 CONTRIBUTIONS

This research seeks to extend the good-to-great conversation, and contribute to the literature in at least a couple of important ways. *First*, this research seeks to provide a theoretical framework to explain the relationship among inputs to a process that leads to outputs of improved operational and financial results. *Second*, this research seeks to empirically test this framework for evidence to support association (correlation), causation, and generalizability to other firms, and other time periods.

### 3 RESEARCH QUESTION

Aligned with the above stated contributions, this research poses and answers two important research questions. The first research question is, “*what is the relationship between a ‘consistent pattern of decisions and actions’ and financial performance?*” The second research question is, “*how to turn a ‘not-so-good’ organization into a ‘good’ organization, and ultimately into a ‘great’ organization that produces and sustains great results?*” In this regard, this research seeks to provide insight into the strategic decision making and action implementation process that enables a company to transform from, “*not-so-good,*” to “*good,*” to “*great,*” and “*beyond.*”

### 4 REFERENT THEORETICAL BASE

The *Neoclassical Theory* of the Firm establishes the principal of profit maximization or value maximization, while the *Principal-Agent Theory* of the Firm extends the profit, or value, maximization principal by adding agents, or economic actors, to the firm. The Principal-Agent Theory also deals with conflict between principals, shareholders, and other stakeholders. The *Theory of Constraints (TOC)* is a system-level management philosophy, for on-going improvement, developed by Eliyahu M. Goldratt (1990). The TOC philosophy emphasizes the importance of defining and understanding the global goal of the organization, and identifying and managing the constraints that inhibit achievement of the global goal.

The combination of these three theories (Neoclassical, Principal-Agent, and Constraint) provide a base for which the theoretical framework is developed. Together, these theories address the principles of profit or value maximization, by managers, with sometimes conflicting self-interests, striving to implement a system-level, ongoing, improvement philosophy. The three theories, combined, intersect to form a rationale that is designed to make the firm more productive, and simultaneously, address the strategic global goal, of the for-profit company, which is to make money.

With regards to publically traded companies, just as it is with most for-profit firms, the general consensus is that the goal of the managers is to maximize the wealth of the firm or to maximize the wealth of the shareholders or stockholders. Wealth is a valuation, and can be measured in a number of ways (e.g. stock price, book value, net present value of discounted cash flows, profitability, Tobin’s q, enterprise value, etc.). Creation of wealth is influenced by a firm’s ability to achieve the global goal, which is to make money, for the firm.

Business owners and senior executives generally look at a minimum of three financial measures to know if their company is making money. These measures are Net Income (NI), Cash Flow (CF), and Return on Investment (e.g., ROI, ROIC, ROA, ROE, etc.). They must look at the trends relative to these three measures to see if the company’s financial performance is improving over time (Srikanth and Robertson, 1995). Additionally, using *cumulative Net Income* and *cumulative Cash Flow* (e.g., *EBITDA*) as its performance measures, have the added advantage of enabling private, for-profit enterprises to compare themselves with, both, public and private firms, in their respective industries, as well as benchmark themselves with all firms that report net income and cash flow (Whitelock, forthcoming).

In most companies it is difficult to link the global goal of making money, for the company as a whole, with the day-to-day, week-to-week, and month-to-month activities of the firm's operations. Because of this, it is difficult for regular employees of the company to understand how the actions they take will actually improve or hurt the company's income, balance sheet, cash flow and shareholder's equity statements. What's needed is a methodology to link day-to-day decision-making and actions-implementation to the global goal of the company.

According to the various theories of the firm, a key objective of a for-profit firm is to make money, and create wealth for its stockholders. Firms make money, today and tomorrow, by creating and delivering products, goods, services, information and money that meet or exceed customer requirements for cost, price, quality, delivery, service and technology. Making money can be characterized by simultaneously increasing Net Income, Cash Flow, and Return on Investment, over time.

To evaluate day-to-day operational actions, Eliyahu M. Goldratt proposed the use of three operational measures that align with the global financial measures of NI, ROI, and CF. The Operational measures are Throughput (T), Inventory (I), and Operating Expense (OE). These operational measures relate to the primary activities organizations take to run their businesses, and by simultaneously driving these three operational measures in the appropriate directions, organizations will align their activities with the objective of simultaneously increasing the financial measures, net income, return on investment, and cash flow.

In their book, titled, *Measurements for Effective Decision Making*, Srikanth and Robertson (1995) defined T, I and OE. They defined Throughput as the "money generated through sales." It is calculated as sales minus the purchased material cost. Inventory is defined as the "amount of money tied up in materials that the company intends to sell." Inventory is calculated as the sum of the purchased material value of Raw Material, In-process and Finished Goods Inventories. Inventory also includes the purchase cost of trade products that the company purchases, and resells without adding value to them. Operating expense is defined as the "actual money spent to convert Inventory into Throughput." Operating expense is essentially all the money spent in transforming inventory inputs, purchased from their suppliers, into finished product outputs, that the company sells to its customers. In evaluating performance, these authors indicated that the ratios "T/I" and "T/OE" are more useful than the numerical values of T, I, and OE, alone, because the ratios force the organization to consider all the measures simultaneously (Srikanth and Robertson, 1995).

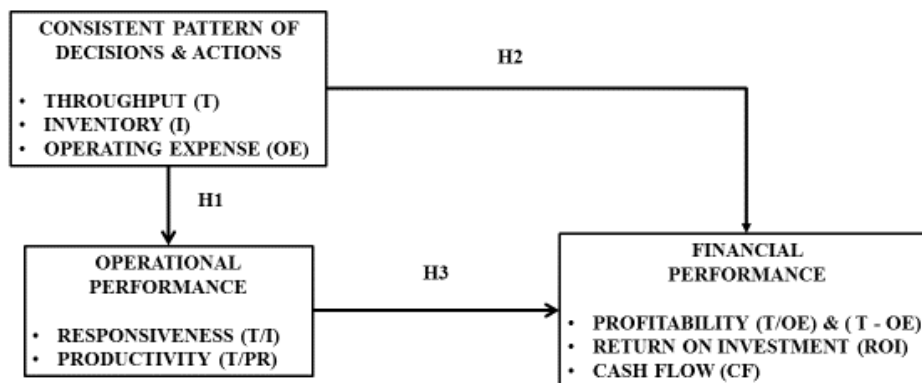
## **5 PROPOSED THEORETICAL FRAMEWORK FOR ONGOING IMPROVEMENT STRATEGY**

### **5.1 Consistent Pattern of Decisions and Actions**

Wheelwright (1978) indicated that a functional strategy could only support business strategy if a sequence of decisions is consistent over a considerable amount of time. Hayes and Wheelwright (1984) later expanded the concept, and defined a functional strategy, as a consistent pattern of decision-making, linked to business strategy. In this regard, they connected functional strategy (e.g., manufacturing, operational, improvement, or other) to business strategy, through "a consistent pattern of decision-making." Thus, as a logical extension, linking Hayes and Wheelwright's definition to an ongoing improvement strategy, the key theme becomes "consistency" ... that is, consistency of decision-making, and of action-implementation. Mintzberg (1978) concurs with Wheelwright (1978), when he communicates that an ongoing improvement strategy is "only realized as decisions are made, and courses of action are pursued." Moreover, an ongoing improvement strategy, it has been argued, "can only be said to exist when one can identify a 'consistent pattern of decisions and actions' within a

firm” (Mintzberg, 1978). Therefore, linking an ongoing improvement strategy to a consistent pattern of decision-making and action-implementation, is not only a logical extension, but it also raises an important ancillary research question, which is, “*how can one induce consistency of decision making, and action implementation within a firm, for an ongoing improvement strategy?*” This research offers the proposed theoretical framework of “Ongoing Improvement Strategy” as an answer to this question (See Figure 1).

**FIGURE 1**  
**Ongoing Improvement Strategy –**  
**The Relationship Between A Consistent Pattern of Decisions and**  
**Actions and Performance**



Intuitively speaking, to achieve the goal of making money, now and in the future, companies need to “generate more sales, cause less money to be tied up in stocks of inventory, and spend less money on the conversion of raw material into finished product, all at the same time” (Srikanth and Robertson, 1995). Making day-to-day decisions and implementing actions consistent with this practice would make the company more productive by bringing it closer to its goal of making money. To put it succinctly, “throughput should be going up, inventory should be going down, and operating expense should be going down, all at the same time” (Srikanth and Robertson, 1995).

A logical extension of this premise would also indicate that both ratios, T/I and T/OE, should be going up, simultaneously. Practically speaking, to apply this premise in the real world, everyone’s decisions and actions, at all times, should be consistently made based on the impact those decisions and actions would have on the global measures of T, I, OE, T/I, and T/OE, for the entire business. Moreover, in practice, one would tend to ask the question, “*If I were to make this decision, and implement this action, what would the impact of this decision and action be on T, I, OE, T/I and T/OE, for the entire enterprise?*” After the analysis, if the conclusion of the decision, and implementation of the action, were to drive T, I, OE, T/I, and T/OE in the appropriate directions, then making the decision and implementing the action would be productive, and tend to drive the enterprise closer to its goal of making money.

## 5.2 Research Hypotheses

A consistent pattern of decisions and actions, aligned with the appropriate directions of the operational measures (as described herein), is purported to drive the financial measures in the proper directions. So, if, on a day-to-day, week-to-week, month-to-month, quarter-to-quarter, and year-to-year basis, each member of the company consistently, makes decisions and implements actions that are patterned and aligned with the appropriate directions of the operational measures, not only is the company expected to become more productive, but the company is also positioned to go from “*not-so-good,*” to “*good,*” to “*great,*” and “*beyond,*”

and perhaps, sustain great results, giving rise to the research hypotheses in Figure 2. There are three hypotheses associated with the proposed theoretical framework, contained herein.

**H1** hypothesizes that “the more firms practice a consistent pattern of decisions and actions, the more positive the impact will be on operational performance.” With regard to this hypothesis, members of the firm strive to make day-to-day decisions that are consistent with increasing “T”, reducing “I”, and reducing “OE”, simultaneously. The more members make decisions in this manner, the more positive the impact will be on operational performance, which is represented by increasing levels of responsiveness metrics such as in “T/I,” and in productivity metrics such as in “T/PR.”

**H2** hypothesizes that “the more firms practice a consistent pattern of decisions and actions, the more positive the impact will be on financial performance.” With regard to this hypothesis, members of the firm strive to make day-to-day decisions that are consistent with increasing “T”, reducing “I”, and reducing “OE”, simultaneously. The more members make decisions in this manner, the more positive the impact will be on financial performance, which is represented by increasing levels of profitability metrics such as in “T/OE” and “T – OE.”

**H3** hypothesizes that “the more positive the impact on operational performance, the more positive the impact will be on financial performance.” With regard to this hypothesis, as the impact on operational performance increases, such as on metrics of responsiveness (“T/I”), and on metrics of productivity (“T/PR”), the impact on financial performance (“T/OE” and “T – OE”) will improve.

<b>FIGURE 2</b>	
<b>RESEARCH HYPOTHESES</b>	
<b>THE RELATIONSHIP BETWEEN A “CONSISTENT PATTERN OF DECISIONS AND ACTIONS” AND PERFORMANCE</b>	
<b>H1:</b>	The more firms practice a consistent pattern of decisions and actions, the more positive the impact will be on Operational Performance.
<b>H2:</b>	The more firms practice a consistent pattern of decisions and actions, the more positive the impact will be on Financial Performance.
<b>H3:</b>	The more positive the impact on Operational Performance, the more positive the impact will be on Financial Performance.

### 5.3 Illustrative Field Example

A real world case illustration, of a privately held business, is provided to illuminate the power of employing a “consistent pattern of decisions and actions,” by all employees, to improve productivity and drive the organization closer to its global goal, of making money. Table 1 describes the turnaround of Tier One Automotive Supplier that implemented the Theory of Constraints methodology, a “consistent pattern of decisions and actions,” and Synchronous Management. As a result, over a 6 year period, the organization was transformed from one that was losing money at the rate of \$2 million per year, for a number of years, to one that was earning in excess of \$2 million, annually.

**TABLE 1 –  
ILLUSTRATIVE EXAMPLE - IMPLEMENTATION OF  
CONSISTENT PATTERN OF DECISIONS AND ACTIONS**

Tier One Automotive Supplier (“TIAS” or “Tier-One”), a mid-western firm, was formed in mid-year 2000 to acquire the business and assets from another failed manufacturer. Tier-One offered complete metal fabrication services ranging from tool and die design, construction and maintenance services to stamping, washing, painting, welding and assembly. Tier-One’s customer base included Truck, Bus, and Automotive OEMs and other tier one suppliers to the OEMs. It employed approximately 200 workers, and generated in 2001 annual sales of approximately \$23 million.

After the acquisition, the owners of Tier-One immediately installed a general manager at the facility. The company's operations, thereafter, began to show slow improvement in cost, quality, service and delivery. The company's business, saddled by unprofitable profit margins inherited from the previous company, was not improving rapidly enough. Aggressive plans for improvement were needed, and an organization change was implemented bringing a new general manager to Tier-One at the start of January, 2001.

The new general manager evaluated the operations, and in February 2001 created a "Sense of Urgency." The general manager formulated his management team, and with them systematically evaluated the financial and strategic viability of each of Tier-One’s business units. A plan of attack was created and implemented.

The plant layout, manufacturing flow and operating practices were studied and more effective practices were developed, saving the company hundreds of thousands of dollars annually. Administrative overhead was reduced, and strict World-Class manufacturing practices were instituted to control manufacturing costs, while simultaneously improving cost, quality, delivery and service.

Those were just a few of the many tactical changes that were implemented to stop the hemorrhaging, make Tier-One healthy, and return it to profitable growth. One of the most important strategic changes for Tier-One, however, was the adoption of Synchronous and Constraint Management, as both a philosophy and an “ongoing improvement” strategic weapon.

Synchronous and Constraint Management is a philosophy in which every action of the organization, at all levels, is focused on the common company goal, to Make Money. Its intent is to implement a consistent pattern of decision-making and actions, that is designed to increase "Throughput", reduce "Inventory", and reduce "Operating Expenses", simultaneously, or increase “T/I” and “T/OE” simultaneously, while satisfying the customers’ requirements for price, cost, quality, delivery, service, and technology.

The new general manager conducted 5-hour seminars on Synchronous and Constraint Management, and trained approximately 125 key employees, from the CEO to the Production Operator, on the merits of operating in the “synchronous” mode. Mind-set, Methods, Measures and Incentives were changed, and the march towards World-Class Manufacturing began. Six-year results indicated that Tier-One continuously improved and year-over-year, net income, cash flow and return on investment continued to grow.

## 5.4 Results

The illustrative field example demonstrates that a consistency of mindset, measures, methods, and incentives, leads to strategic alignment with the organization’s global objective of making money, and results in performances that go from “*not-so-good*,” to “*good*,” to “*great*.” Mindset is the way of thinking to determine importance and priority. Measures are

the metrics used to evaluate effectiveness of business performance, and serve as a guide for decision-making. Methods are the techniques employed in the execution of procurement, production, and fulfillment processes, or practically speaking, the planning, sourcing, making, delivering, and return of product, goods, services, information, and money.

Table 2 depicts the operational and financial performance of Tier One Automotive. The 5 operational metrics of T, I, OE, T/I, and T/OE give all the information one needs to determine how well the firm has performed. The T/I metric indicates how fast the firm is turning its inventory. The higher the number the more proficient the firm is in transforming inventory into customer requirements. The T/OE metric indicates the profitability of the firm. If this metric is equal to 1, the firm is breaking even. If the metric is less than one, the firm is losing money. If the metric is greater than 1, the firm is making money. The higher the number, the more money the firm is making. The T – OE metric indicates the firm’s profitability in dollars.

The implications of the empirical findings, in the case illustration, of Tier One Automotive Supplier, demonstrate consistency in that the theoretical framework lends support to: 1) association (correlation) and causation; 2) generalizability to other firms, and to other time periods; and 3) confidence in applying the principles of a consistent pattern of decisions and actions, using the Operational measures T, I, OE, T/I, and T/OE to improve operational and financial performance. In this regard, the empirical findings also lend support to provide practical insight into the strategic decision-making and action-implementation process that puts a company on track to transform from, “not-so-good,” to “good,” to “great,” and “beyond.”

<b>TABLE 2</b>							
<b>TIER ONE AUTOMOTIVE SUPPLIER</b>							
<b>GLOBAL OPERATIONAL AND FINANCIAL PERFORMANCE RESULTS</b>							
<b>METRIC</b>	<b>DESIRED TREND</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>T</b>	<b>UP</b>	\$ 7,301	\$ 7,071	\$ 11,048	\$ 12,729	\$ 14,456	\$ 15,873
<b>I</b>	<b>DOWN</b>	\$ 1,922	\$ 1,231	\$ 2,184	\$ 1,444	\$ 1,514	\$ 2,236
<b>OE</b>	<b>DOWN</b>	\$ 8,414	\$ 9,134	\$ 11,008	\$ 11,133	\$ 10,765	\$ 11,331
<b>T/I</b>	<b>UP</b>	3.8	5.7	5.1	8.8	9.5	7.1
<b>T/OE</b>	<b>UP</b>	0.87	0.77	1.00	1.14	1.34	1.40
<b>T - OE</b>	<b>UP</b>	\$ (1,113)	\$ (2,063)	\$ 40	\$ 1,596	\$ 3,691	\$ 4,542

## 6 SUMMARY

This research proposes a theoretical framework that argues that there is a positive relationship between implementation of a consistent pattern of decision-making and actions, and improved operational and financial performance. It contends that consistency of making decisions and implementing actions, based on specific global operational measures, described herein, leads to improved performance, in the global financial measures, that demonstrates how productive the firm is in its quest to make money. In examining this theoretical framework, this research supported the propositions by posing and answering a number of research questions.

As a result, this research revealed a number of important contributions, by answering the two research questions, posed in the beginning of this study. The two questions are: 1) “*what is the relationship between a ‘consistent pattern of decisions and actions’ and financial performance?*”; and 2) “*how to turn a ‘not-so-good’ organization, into a ‘good’ organization, and ultimately into a ‘great’ organization that produces and sustains great results?*”

This research answered the first research question, “*what is the relationship between a consistent pattern of decisions and actions and financial performance?*” by proposing a theoretical framework depicting the relationship between “a consistent pattern of decisions and actions” and financial performance.

This research answered the second research question, “*how to turn a ‘not-so-good’ organization into a ‘good’ organization, and ultimately into a ‘great’ organization that produces and sustains great results?*” by using an illustrative case study to provide insight into the strategic decision-making and action-implementation process that enables a company to transform from, “*not-so-good,*” to “*good,*” to “*great,*” and “*beyond.*” The 6-year, case study of privately-held, Tier-One Automotive Supplier demonstrated strong empirical support for the proposition that almost any organization can substantially improve its stature and performance, and transition from “*not-so-good,*” to “*good,*” and perhaps even become “*great,*” if virtually every employee in the organization conscientiously, “implements a consistent pattern of decisions and actions,” that is aligned with the global goal of the organization, which is “to make money.”

In this case study, the consistent pattern of decision-making and actions-implementation refer to the global operational measures of throughput (T), inventory (I), operating expenses (OE), T/I, and T/OE. In this regard, decision-making and actions should be implemented if the global impact of these decisions and actions would drive throughput up, inventory down, and operating expenses down, simultaneously, or alternatively, drive T/I and T/OE upward, simultaneously, for the entire enterprise. The results of this case study indicates that making decisions and implementing actions, according to the framework, described herein, demonstrates strategic alignment between the global operational measures of throughput (T), inventory (I), operating expenses (OE), T/I, and T/OE and the global financial measures of net income (NI), return on investment (ROI), and cash flow (CF).

Thus, the question of “*how to turn a ‘not-so-good’ organization, into a ‘good’ organization, and ultimately into a ‘great’ organization that produces and sustains great results?*” is answered empirically, by operationalizing a “consistent pattern of decision-making and action-implementation,” using T, I, OE, T/I, and T/OE as the measurement tool, by every employee in the organization, day-to-day, week-to-week, month-to-month, quarter-to-quarter, and year-to-year. The results, shown in Table 2, of the six-year case-study of Tier-One Automotive Supplier, demonstrate the alignment of implementing a consistent pattern of decision-making and actions, with operational measures. The alignment, using the operational measures (T/I and T/OE), leads to improved financial performance, measured by NI, ROI, and CF. The theoretical framework, discussed herein, and the empirical results, from the case study, lend support to the question of “how”... that is, how to go from “*not-so-good*” to “*good*” to “*great*” and “*beyond,*” and produce and sustain great results.

## 7 PRACTICAL IMPLICATIONS

There are major trends impacting today’s operating environment. Business leaders are faced with slow economic growth, globalization, ongoing technological change, and changes in availability and amount of data they have to process. These challenges make it difficult for business leaders to navigate their firm in this uncertain environment. One solution to overcoming these challenges is to have everyone in the firm row in the same direction.



The implication for business leaders is that they would do well to follow the old adage of “getting the right people on the bus, getting the wrong people off the bus, and getting everyone in the right seat.” This can be accomplished by aligning individual decision-making and actions-implementation, with the objectives and goal of the firm. This means creating an environment in which every employee consistently implements a pattern of decisions and actions, on a day-to-day basis, that have the impact of simultaneously, driving the global operational measures, of T, I, OE, T/I, and T/OE, in the appropriate directions, as explained herein.

Empirical results of the illustrative case-study, like numerous other examples experienced by the current authors, lend strong support for a positive, causal relationship between the consistency of decision-making and actions-implementation, using the global operational measures of T, I, OE, T/I, and T/OE, and the global financial measures of NI, ROI, and CF. Thus, by consistently and routinely making decisions based on driving throughput up, inventory down and operating expenses down, simultaneously, or alternatively, driving T/I and T/OE up, simultaneously, the firm is positioned to realize positive growth in the global financial measures of net income, return on investment, and cash flow, thereby making the firm more productive, and bringing it closer to its goal of making money.

The implication for researchers is that this framework can provide useful insight from two perspectives. First, researchers can implement this framework in individual firms, using field experiments (Measure—Treatment—Measure), and record the impact on net income, return on investment, and cash flow. The average increase in NI, ROI, and CF, could be measured before and after the treatment (implementation of consistent pattern of decision-making and actions, training). The differences could be measured, and statistically significant increases could be attributed to the invocation of a consistent pattern of decision-making and actions-implementation, lending support to causality. Second, researchers can apply the framework retroactively, to the individual firms’ financial statements, in order to examine the correlations of the global operational measures of T, I, OE, T/I, and T/OE with that of the global financial measures of NI, ROI, and CF. Correlations could be studied, and areas demonstrating non-productive performances could be targets for improvement opportunities.

## 8 POTENTIAL LIMITATIONS

The real life case study, of Tier-One Automotive Supplier, demonstrates empirical support for a causal relationship between a consistent pattern of decision-making and actions-implementation, using the global operational measures of T, I, OE, T/I, and T/OE, and the global financial measures of NI, ROI, and CF. This case study was truly indeed a controlled, field-experiment, as was the case with like-experiments, conducted by the researchers on other privately-held organizations.

However, when retroactively applying the framework to publically available financial statement data to evaluate the fit of the data to the model, limitations must be noted. First, publically-traded firms do not disclose their actual material costs. Since material costs are necessary to calculate throughput and inventory, it is not possible to calculate the “true” measures of throughput and inventory, from publically available data. Therefore, in the absence of material costs, one can substitute cost of sales (COS) or cost of goods sold (COGS), as a proxy for material costs. In this regard, however, throughput would be artificially reduced, and inventory, would be artificially inflated, because COS and COGS, as well as Inventory, extracted from publically available data, have labor and other value added components, in the reported figures.

Despite these limitations, when retroactively applying the framework to publically available data, of stock-traded firms, the results indicate the data fits the model reasonably well.

That is, there is a strong correlation between the global operational measures of T/I and T/OE, and the global financial measures of NI, ROI, and CF.

## 9 FUTURE RESEARCH

Future research opportunities exist to apply this framework in small, medium, and large private and public firms. This framework can be applied at the individual plant, company, or enterprise level, in both manufacturing and service industries. This framework can also be applied to public data disclosed by stock-listed companies to evaluate their operational and financial performances. In such an application, this framework would be applied to peers and competitors, by industry or standard classification codes. Some researchers have expressed interest in applying the good-to-great method in non-profit organizations, like universities, in order “to bring about quality improvement in lecturers, students, and the entire support system” (Pratikna and Gamayanto, 2017).

Moreover, this framework can be applied in a supply chain management field-experiment context. In this regard, performance of each member of the supply chain can be measured, before applying the treatment of consistent pattern of decision-making and action-implementation, using the global operational measures methodology, and then the performance of each member of the supply chain can be measured after the treatment, to ascertain causal effects on the members, individually, and the supply chain, collectively.

Furthermore, this framework can be, has been, and is currently being, applied in higher education institutions, at schools, colleges, and universities. In this regard, performance of each Department of the School, or each School of the College, or each College of the University can be measured, before applying the treatment of consistent pattern of decision-making and action-implementation, using the global operational measures methodology, and then the performance of each Department, School, College, or University can be measured after the treatment, to ascertain causal effects on the departments, schools, and colleges, individually, and the university, collectively. In academia, the cost of instructors is considered material cost, enabling the institution to easily calculate T, I, OE, T/I, and T/OE, especially from publically available financial data.

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