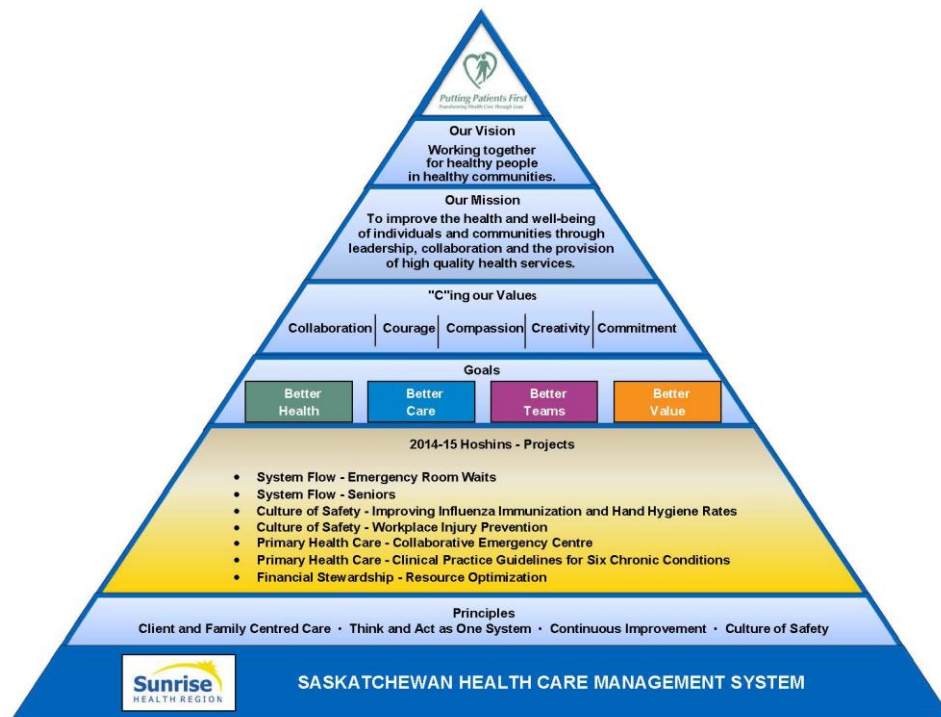


STRATEGIC HUMAN RESOURCE MANAGEMENT AND LEAN TRANSFORMATION IN SUNRISE HEALTH REGION



By

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ABSTRACT

The Sunrise Health Region, one of fourteen regional health authorities/agencies that provide a wide spectrum of health care services to the Saskatchewan population, has recently embarked upon the implementation of a Lean management system. In support of this transition, this applied project examined how the Sunrise Health Region can build upon its existing human resource philosophies, programs and policies to support the strategic adoption of a Lean management philosophy.

To address this research problem, a literature review encompassing four main areas was conducted. First, the paper explored the potential impact of taking a strategic human resource management approach on a firm's performance. The review then delved into what is meant by a Lean management philosophy followed by reviewing the existence of Lean within a healthcare environment. The human resource implications of Lean are then studied to identify a number of organizational elements that are believed to be inherent in a Lean philosophy. Finally, through the use and adaptation of Lam's strategic human resource management framework the paper proposes a number of practices, policies and philosophies that are believed to be required to align Sunrise Health Region's human resources with its Lean management philosophy. Lam's framework was chosen for the project as it is believed to be one that encompasses the main elements of strategic human resources while lending itself to be adapted to identify and depict the human resource elements required to successfully achieve congruence and consistency with a firm's strategic intent.

Specifically, this project found that an organization must ensure that it has an appropriate culture to support a Lean philosophy. To accomplish this daunting task, the firm's executive leadership must clearly articulate the organization's management philosophy, the desired behaviours and skills of its managers and frontline workers, and develop appropriate structures and programs to support the organization in transforming its culture to be one that is aligned with the philosophical tenets of Lean management. By applying a strategic human resource management model to the findings of the literature review, the project posits that any organization pursuing a Lean management philosophy will need to manage the inherent human resource implications in the areas of:

- management philosophy;
- organizational culture;
- union/employee-management relationships;
- organizational and work design;
- human resource flow;
- performance management;
- employee voice; and
- rewards management.

Through the application of the findings of the literature review and the adaptation of a strategic human resource management framework, the project then provides seven recommendations specific to the Sunrise Health Region's current pursuit of implementing

a Lean management system. By implementing these recommendations, it is believed that the Sunrise Health Region will strategically create and align its human resource management philosophies, programs and policies so that they are congruent with the Region's Lean management philosophy. This will ultimately result in the creation of a culture that is conducive to continuous quality improvement through Lean methodology which supports the Region's staff in their pursuit to always putting the needs of the patient first.

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INTRODUCTION

Throughout North America the healthcare industry is under increasingly intense pressure to make drastic changes to improve its service offering. Central to the changes required are improvements to the quality and safety of the services provided coupled with the need to significantly decrease costs. Obviously, publicly delivered healthcare within the Province of Saskatchewan is not immune to these very real pressures. As a result, the Sunrise Health Region (Sunrise) and the Province's Ministry of Health have been undertaking initiatives to meet these requirements.

In the early 2000's, a number of healthcare organizations began exploring the possibility of adapting the very popular manufacturing management philosophy of Lean to a healthcare environment. Virginia Mason Medical Centre (VMMC) has been one such institute that is leading this implementation and providing evidence of the improvement potential that Lean can have for the operations of a healthcare organization. Due to their adaptation of Lean, VMMC has been ranked as one of the best hospitals in Seattle and Washington State for four consecutive years and is the only hospital in Washington to be named one of America's best hospitals in 2014 (<https://virginiamason.org>). Furthermore, through the utilization of the Virginia Mason Production System, VMMC's version of the Toyota Production System, they have been able to:

- Improve their patient safety alert system;
 - Reduce the amount of waste (time and effort) for cancer patients receiving treatments;
 - Increase the amount of time nurses spend providing value-added, direct patient care by over 50 percent;
 - Decrease the number of hours their emergency department was closed and unable to receive new patients by more than 90 percent;
- (<https://virginiamason.org/VMPS>)
- Save \$11 million in planned capital investments;
 - Reduce staff walking by more than 60 miles per day;
 - Reduce inventory costs by more than \$1 million; and
 - Reduce labour expense in overtime and temporary labour by \$500,000.

(Kaplan and Patterson, 2009, p. 20)

Clearly, these results demonstrate that Lean may be a practical solution to the healthcare industry's ongoing woes and pressures. As a result of the improvements achieved elsewhere, the Saskatchewan healthcare sector embarked upon a transformational change initiative that significantly relies upon the Lean philosophy and the Toyota Production System to remove waste, improve safety and quality while at the same time reducing costs. Since that time, Sunrise and other health regions have begun adopting and implementing various aspects of the Lean philosophy and utilizing many of the Lean tools with the guidance of management consulting firm John Black and Associates.

However, embarking upon a significant change effort to implement and sustain a Lean management system does not, in and of itself, guarantee success. Indeed, it is well documented that many change initiatives fail for a multitude of reasons. For example, LaClair and Rao (2002) identify that out of forty change programs 58% failed to meet their targets. One possible strategy that may increase Sunrise's probability of successfully implementing a Lean management philosophy is for the Region to ensure alignment between its Lean strategies and its human resources. To that end, this applied project will attempt to determine if there are specific strategic human resource management practices, policies and philosophies that will support the successful implementation of the Saskatchewan Healthcare Management System, Saskatchewan's version of the Toyota Production System, within Sunrise.

To address the above research problem, a literature review was conducted that encompassed:

- the potential impact of taking a strategic human resource management approach;
- what is meant by a Lean management philosophy;
- existing utilization of Lean in a healthcare environment; and
- the human resource implications of Lean.

With this context set, the project proceeds to analyze the findings of the literature review via the utilization of a strategic human resource management framework with the ultimate goal of recommending a number of potential human resource management practices and philosophies that will assist with the successful transformation of Sunrise to a Lean organization.

CURRENT SITUATION

BACKGROUND

The Sunrise Health Region is one of fourteen regional health authorities/agencies that provide acute care, long term care, primary care, public health, mental health, addictions and home based services to the Saskatchewan population. Specifically, Sunrise operates with an annual budget of \$216,602,135 to provide its services to a population of approximately 58,000 living within 49 cities, towns and villages, 28 rural municipalities, and three First Nations in east central Saskatchewan (Sunrise Health Region, 2013), via twenty-two facilities through the dedicated service of approximately 2950 employees (see Figures 1 and 2).

Figure 1 – SK Health Regions

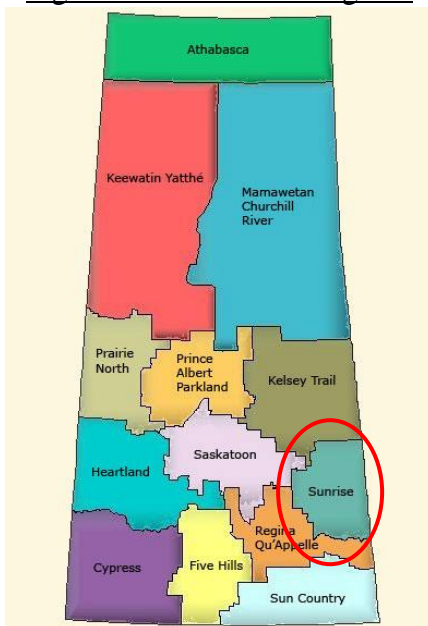
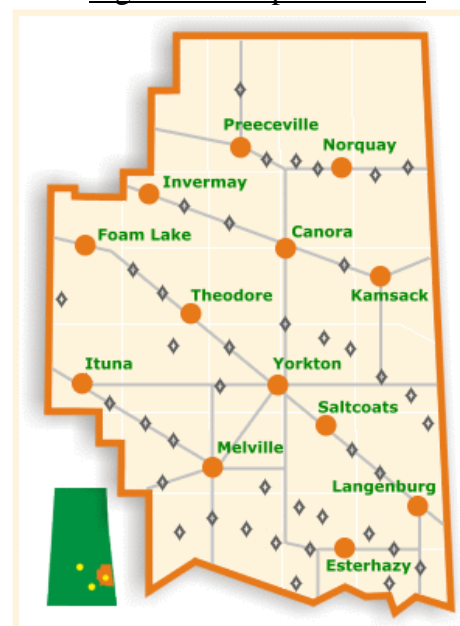


Figure 2 – Map of Sunrise



In 2009, the Government of Saskatchewan released the Patient First Report that was commissioned in response to concerns about quality, cost and safety within the provincial health system. At the helm of this review was Tony Dagnone, a well-respected health service executive who has held many leadership positions in healthcare organizations in Saskatchewan and throughout Canada (Bloomberg Businessweek, 2014). Through the work of the Commission, Dagnone (2009) identified a number of issues contributing to the need for the Patient First Review, and ultimately, a change to the system:

- Escalating costs,
- Increasing pressures facing the system such as: an aging population, increased chronic disease, unrelenting competition for healthcare workers, inadequate access, and new, expensive technologies and treatments,
- Quality and efficiency issues,
- A need to improve costs by increasing quality and safety, and
- A provider-centric orientation.

Furthermore, Dagnone (2009) identified the following three themes that he believed must act as guiding principles for the Saskatchewan Health System:

1. Patient First must be embedded as a core value in health care to become the focus of the service industry;
2. Healthcare in Saskatchewan needs to function as a cohesive system that removes silos and provides standardized services to achieve its primary objective of putting the patient first; and
3. Frontline providers must be empowered to deliver patient-and family-centred care through appropriate leadership and improved system performance.

A significant component of the Province's response to the Patient First Review and the widespread pressures facing the North American healthcare industry was and continues to be the implementation of Lean as a management system. Although significant Lean work has been completed across the Province over the past number of years, the strategy had not truly progressed until a significant commitment by the Province was made in August 2012 at which time a well-established Lean consulting organization, John Black and Associates (JBA), was engaged to provide Lean expertise and assist in the development of a Lean system within the Province (Government of Saskatchewan, 2012).

Under JBA's tutelage, the Sunrise Health Region has concentrated on a number of Lean initiatives as it begins its attempt to transform its culture to be one committed to safety, eliminating waste, empowering frontline staff and always putting the patient first. Namely, Sunrise has embarked upon:

- Providing in-depth education to forty-six members of its management team via the Province's Lean Leader Certification process which includes a tour of VMMS and other North American Lean organizations;
- Providing minimal education to front-line staff on Lean through a full day training session titled Kaizen Basics;
- Providing sixteen members of its management team with leadership training via the Saskatchewan Leadership Program. The Saskatchewan Leadership Program is based on the Leads framework and was developed to be aligned with the leadership behaviours required of a successful Lean Leader as identified by Blakely (2012);
- Utilizing hoshin kanri (a form of strategy of deployment), in coordination with the Province, to align and deploy its strategic initiatives (referred to as hoshins); and
- Utilizing Lean tools such as Rapid Process Improvement Workshops (RPIW), 3Ps, 5S'ing, Kanban, and daily visibility walls to attack waste and improve communication and employee engagement.

Although Sunrise and Province have been pursuing this transformational change initiative for over three years, it is still considered to be in its infancy with respect to the adoption of Lean as a management philosophy. With this in mind, it is an opportune time to review the Region's progress and more specifically, to determine if its human resource practices, policies and philosophies are aligned with the strategies inherent in adopting and implementing a Lean management system.

MANAGEMENT ISSUES

To date, there has been limited emphasis on pursuing a strategic human resource approach to this critically important initiative. With the exception of the provision of limited training to leaders and staff, the Sunrise's efforts have mainly concentrated on the application of Lean tools rather than changes to its human resource policies, practices and philosophies. As a consequence there are a number of critical human resource related issues that Sunrise must manage if it is to be successful in engraining the Lean philosophy into its culture to improve quality, safety, cost, employee engagement and ultimately, the patient experience.

The first such issue centres on the reality that the majority of Sunrise's frontline management team continues to manage their staff based upon their previous philosophies and leadership styles which may, or more frequently may not, be congruent with Lean. The predominant, historical management philosophy employed by Sunrise's frontline management team has been to rely upon a command and control style whereby managers utilize their legitimate power, which is power based upon their formal position (Athabasca University, 2013), to influence and manage their staff. As a result, most employees and teams do not feel empowered to make appropriate and positive changes to their work (Dagnone, 2009). This has resulted in a culture where employees rely on their managers to provide direction or permission prior to making changes even when frontline employees are best suited to provide the answers.

A second management issue inherent with Sunrise's implementation of Lean is the ability of the organization to successfully diffuse the Lean philosophy to its frontline teams. The Region has embarked upon providing basic education to all staff (targeted for completion over the next eighteen months) through a one-day Kaizen Basics seminar. Although this session is a very effective introductory course which dispels a number of myths related to Lean and introduces some basic Lean concepts, it obviously only touches the surface of what a Lean system entails. As a result, even after attending the training, frontline staff and managers still do not have a comprehensive understanding of what Lean could or should mean to them or how they can apply its principles within their workplace. Furthermore, many staff remain unconvinced that Lean is applicable to a healthcare setting or that it will improve their day-to-day work environment. In other words, they continue to question if the Lean system is just another management fad that will soon end and thereby leave them in their current predicament of working in a less than ideal environment.

Sunrise's current culture and labour relations environment pose a significant issue for the implementation of Lean. Over the past half century, the publicly delivered health system has evolved into a strongly unionized environment (approximately 93% of Sunrise staff are union members) where there is a significant division between union leadership, including unionized employees, and the management team. Through this evolution the parties have jointly developed numerous human resource policies and procedures (inherent in the collective bargaining agreements) that may be viewed as restricting management's rights (i.e. job design) and places significant emphasis on seniority (i.e. employee selection processes). Obviously, many of these collective agreement rules may

not be aligned with the human resource requirements of a Lean philosophy. Furthermore, due to being a healthcare system that is publicly delivered, the various unions' provincial bodies have significant influence in the industry via long established legislative requirements and governmental relationships. As a result, the management team is in a position where they are likely to have to convince their union partners to make changes to the Region's policies, procedures and most likely, collective bargaining agreement articles. Due to the fact that many of these issues are philosophical in nature, strong, evidence-based rationale will be required if the organization is going to be successful in implementing these potential Lean "friendly" human resource practices.

Ultimately, the overarching management issue facing Sunrise is whether or not it can adapt its human resource strategies, policies, practices and philosophies to enable the achievement of transforming the organization through its Lean management system.

RESEARCH PURPOSE AND QUESTIONS

Sawhney and Chason (2005) identify that the success of Lean depends upon its people, the management of culture change and the ability to integrate the requirements of system changes with the organization's human resources. If this proposition is believed to be valid, it becomes immediately evident that Sunrise must strategically make changes to its human resource management philosophy and accompanying systems so that they align with the main tenets of Lean. The purpose of this applied project is to identify the foundational human resource requirements that are inherent in a Lean organization. Once identified, a strategic human resource management framework can then be employed to provide a picture that ultimately outlines a comprehensive human resource program tailored for a Lean healthcare organization.

THE RESEARCH PROBLEM

This applied project will attempt to determine if there are specific strategic human resource management practices, policies and philosophies that are most conducive to ensuring the successful implementation and ongoing success of Saskatchewan's Healthcare Management System within the Sunrise Health Region.

SUB PROBLEMS

1. To determine the extent to which it is necessary to ensure alignment of the organization's human resources with its strategic Lean initiative.
2. To identify the human resource implications that are inherent in a Lean management philosophy.
3. To pinpoint the necessary human resource practices, policies and philosophies required to implement and sustain the required changes to successfully implement a Lean philosophy in order to deliver safe, continually improving, patient and family centred care within the Sunrise Health Region.

RESEARCH QUESTIONS

1. Does research show that organizations pursuing a corporate strategy such as a Lean transformation tend to be more successful if its human resource practices, policies and philosophies are adequately aligned?
2. What major human resource implications, such as management philosophy, work design, leadership models, and culture are inherent in a Lean management philosophy?
3. What changes are required to Sunrise Health Region's current human resource systems to ensuring congruence amongst its human resource practices, policies and philosophies and its Lean management philosophy?

DELIMITATIONS

The applied project will not determine or evaluate the Sunrise Health Region's current readiness for Lean or its level of adoption of a Lean philosophy.

The applied project will be limited to the Saskatchewan healthcare environment and will concentrate on the Sunrise Health Region.

The applied project will not attempt to predict the success of the Province and more specifically, the Sunrise Health Region, in implementing Lean.

ASSUMPTIONS

- The Province of Saskatchewan, including the Ministry of Health, will continue to be committed to Lean.
- The findings identified in academic and business literature pertaining to Lean manufacturing companies are transferable to Lean service companies.
- The findings identified in academic and business literature over the past twenty-five years are still applicable in today's business environment.

DEFINITION OF TERMS

Human Resource Flow – describes how people move into, within, and out of the organization and includes the areas of recruitment and selection, orientation, training and development, promotions, transfers, layoffs and terminations (Lam, 2008).

Job Stress – is “widely viewed today as the physiological and psychological reaction which occurs when individuals meet a threat or challenge and the individuals’ perception, whether consciously or subconsciously, is that it is beyond their immediate capacity” (Cranwell-Ward, 1998, p. 285).

Lean – is a “philosophy that focuses on reduction in waste of any kind, without compromising on quality or on-time delivery, all the while, keeping the cost low” (Sawhney and Chason, 2005, p. 76).

Organizational Culture – “the complex set of beliefs, assumptions, values, attitudes, expectations, and norms held and shared by its members (management and staff) and exhibited in artifacts and behaviours” (Lam, 2008, p. 25).

Productive Ward – is a program developed by the National Health Services of the United Kingdom that is focused on “improving ward processes and environments to help nurses spend more time on patient care and at the same time improve levels of safety and efficiency” (http://www.institute.nhs.uk/international/general/the_productive_ward.html).

Saskatchewan Healthcare Management System – is Saskatchewan healthcare’s version of the Toyota Production System and Lean philosophy that was developed through consultation between the Ministry of Health, Health Regions and John Black and Associates.

Strategic Human Resource Management (SHRM) – is “a set of distinct but interrelated practices, policies, and philosophies whose goal is to enable the achievement of the organizational strategy” (Lam, 2008, p. 4).

RESEARCH DESIGN

To research the above problem, this applied project will rely upon a comprehensive literature review focusing on strategic human resource management, the Lean philosophy and the implementation of Lean, the effects of Lean on a firm's human resources, with particular emphasis on literature that has direct relevance to healthcare organizations. It will then draw upon the author's personal experience and observations to apply the literature review findings to Sunrise Health Region's current situation.

The conceptual paper will first explore literature concentrating on the concept of strategic human resource management to attempt to determine if taking a strategic approach to its human resources will increase its likelihood of strategic success. Second, by reviewing the considerable literature related to Lean management and its associated human resource implications, this paper will identify the organizational elements inherent in a Lean philosophy. Finally, through the use of an appropriate strategic human resource management framework and by reviewing Sunrise Health Region's current human resource systems (based upon personal experience and observations), the conceptual paper will propose a number of practices, policies and philosophies that will align Sunrise Health Region's human resources with its Lean management philosophy.

The Athabasca University online library will be utilized as the primary medium to complete the literature review. Specifically, literature searches will be conducted on the ABI/Inform Complete and Business Source Complete databases. Course material and textbooks from the Athabasca University Masters in Business Administration program and a search of the World Wide Web will also be employed. For the most part, the literature review will concentrate on the past twenty five years; however there may be certain theories that originate prior to this time frame.

The following key search words will be used as starting points when conducting the literature review:

- Strategic Human Resource Management
- Leadership theory
- Servant leadership
- Lean Philosophy
- Lean transformation
- Lean culture
- Human Resource Strategy and Lean
- Employee Motivation
- Employee Empowerment
- Human Resources and change management
- Lean and healthcare

A final source of data will be documents, information and/or observations from the Sunrise Health Region and the Saskatchewan Health Care system.

LITERATURE REVIEW

The literature review will begin with an examination of the merits of ensuring strategic alignment between a firm's overall strategy and its human resources. It will continue to target the three sub problems as a means to answer the questions identified via the research problem by exploring what is meant by a Lean approach and then exploring existing literature specific to Lean's application in health care. The review will subsequently delve into literature pertaining to the human resource implications of a Lean philosophy and an analysis of the human resource practices, policies and philosophies that are congruent with the implementation of Lean.

THE IMPORTANCE OF STRATEGIC HUMAN RESOURCE ALIGNMENT

There is considerable literature identifying a need for strategic human resource management within today's business environment. Given that healthcare is in the human services sector and that the vast majority of a healthcare organization's annual budget is spent on its human resources (approximately 80% of Sunrise's is allocated to compensation), it is logical for these firms to place a substantial emphasis on its human resource strategies. The following review explores existing literature on strategic human resource management and its importance to the overall performance of a firm.

Becker and Huselid (1999) recognized that the field of human resource management was beginning to come of age in the late 1990s with considerable emphasis being placed on strategic human resource management in both academic research and the business world. Around that same time, Wright et al. (1998) identify that an increasingly global competitive environment required a new strategic role for human resources which resulted in a need for the human resource executive to provide input into the firm's strategy to ensure alignment with its human resource capabilities while simultaneously ensuring that its programs and practices enable the strategy's implementation. Similarly, Lam (2008) argues that a changing external environment, beginning in the 1970s, resulted in human resource priorities shifting from an administrative personnel management role to one of a strategic nature. She concludes that most organizations find themselves at a point closer to personnel management rather than true strategic human resource management even though companies are continuing to try and shift this focus. Clearly, these authors believe that firms must take a strategic approach to human resource management.

Through their Human Resource Competency Model, Yeung and Brockbank (1994) identify that the human resource function must transform to become proficient in four competencies if they are going to continue to contribute to the company's ongoing success. First, business mastery identifies the need for the human resource team to understand the business so that they can actually join the management team. "Second, HR mastery ensures that HR professionals design and deliver HR practices that are aligned with each other and closely linked to business objectives" (Yeung and Brockbank, 1994, p. 14-5). Third, human resources must be proficient in change management so that they can lead and support required organizational change. Finally, human resource professionals must be credible if they are to be trusted with contributing

to the organization's strategy development and implementation. It is clear that these competencies align with the transformation of an organization to a Lean philosophy and speak to the need for alignment between an organization's strategy and its human resources.

Becker and Huselid (1999) articulate that the "empirical literature linking better HRM with firm performance has consistently found that more effective HR management is associated with superior financial performance" (Becker and Huselid, 1999, p. 287). Similarly, Karami et al. (2004) contend that organizations can enhance their competitive advantages and ongoing success by increasing their human resource competencies and capabilities. Conversely, they identify that there was limited research on the consequences of human resource involvement in business strategy and that Bennett et al.'s (1998) study argued that a negative relationship exists between strategic human resource involvement and human resource effectiveness. However, Karami et al.'s (2004) research concludes that including human resources in the strategy development and implementation process increases the organization's overall effectiveness.

Wright et al.'s (1998) research into human resource involvement in strategy and its impact on human resource effectiveness and organizational performance provided some valuable insights into the topic. The authors cited three different studies that concluded higher performing firms had greater linkages between their human resources and strategy. Specifically, these studies surmised that human resource executive involvement in strategy development and the use of strategic human resource management components contributed to superior financial performance. Conversely, two different studies found that the integration of human resource management and strategy was unrelated to perceived profitability and/or the business unit's short-term performance. Ultimately, they indicate that "numerous authors have called for increasing the extent to which HR managers are involved in the strategic management of the firm, yet little data exist confirming the effectiveness of it" (Wright et al, 1998, p. 19). With that said, the authors aptly argue that the effectiveness of human resource involvement in strategy may be directly related with the firm's actual strategy. If the firm views its people as a strategic resource and seeks to maximize their contributions, the integration of human resources and strategy becomes much more important. However, if the firm pursues a strategy that de-emphasizes employees' contributions then the human resource function is much more administrative and does not require human resource involvement in strategy.

Figure 3 - The Human Resource Value Chain



Source: Pickles et al. (1999)

Utilizing the human resource value chain from Figure 3 and citing a number of case studies, Pickles et al. (1999) believe the evidence clearly indicates that strategic human resource practices can, and do, positively impact a firm's performance. For example, a case study in the insurance industry found that employee retention was positively correlated to customer retention, which in turn produced greater profitability. As a result, firms that aligned their human resource programs with the goal of retaining employees and agents achieved a competitive advantage and ultimately, greater profitability. They identify five steps required to achieve alignment and improved performance:

1. Clarifying organizational goals
2. Defining organization capabilities
3. Identifying and assessing organization capability drivers
4. Implementing programs to close any gaps between actual and desired performance
5. Realigning the human resource function itself

(Pickles et al, 1999, p. 27)

They argue that through these five steps an organization will achieve alignment between its strategic intentions and its human resource practices and capabilities. Furthermore, individual employee behavior will be aligned with the organization's goals while renewed human resource programs will simultaneously result in improved motivation. Investments in human resources thus become an investment in achieving organizational objectives rather than just being an expense. In summary, their argument is that

Managers can make systematic changes in HR practices and achieve predictable results in the financial performance of the organization. The HR value chain exists; it can be managed.

(Pickles et al, 1999, p. 22)

Phrased another way, organizations can strategically align their human resource practices to support their organization's strategy and by doing so, improve the firm's overall performance.

In his research on human resource bundles, MacDuffie (1995) argues that one of the major issues preventing researchers from demonstrating the effectiveness of strategic human resource management on overall firm performance empirically is that the research concentrates "on isolating the effect of individual practices than to understanding how different HR practices interact to reinforce one another, or how they are linked to business functions and strategies" (MacDuffie, 1995, p. 198). Through his study of 62 automobile assembly plants, MacDuffie found that the combination of flexible productions systems (i.e. Lean manufacturing) with aligned human resource practices or

bundles resulted in improved economic performance. He thus concludes that adopting a strategic human resource approach is strongly related to increased performance.

Based upon the above, there is evidence supporting the need for strategic human resource alignment as it has the potential to create a significant competitive advantage ultimately resulting in a more successful and effective organization. Nevertheless, it is important to note that not all literature is convinced of the effectiveness of taking a strategic human resource management approach. Dawson captures this sentiment by identifying “although in practice, many of the promises of strategic human resource management remain unfulfilled and have been criticized for their tendency to downgrade the human element” (Dawson, 1995, p. 47). However, when contemplating this issue in the context of a Lean organization, Wright et al. (1998) conclude that the “effective implementation of this strategy requires skilled and knowledgeable workers who are motivated to contribute their discretionary effort toward the attainment of organizational goals” (Wright et al., 1998, p. 20) thereby increasing the need to integrate human resource management and strategy. To this end, an organization must garner an in-depth understanding of the implications that are inherent in its strategy so that it can adequately align its human resources.

THE LEAN APPROACH

“Without Standards, there can be no improvement”

- Taiichi Ohno

The Lean management approach originated in the automobile manufacturing industry and was developed by Taiichi Ohno of the Toyota Motor Company. Stone (2012) highlights the fact that Womack et al., in their book titled *The Machine that Changed the World*, initially introduced lean production to the mainstream business world in 1990. Today, this management philosophy has evolved into what is known as the Toyota Production System and is widely utilized in manufacturing industries around the world as a system that can be successfully employed to improve total company performance.

Even though the Lean philosophy originated in manufacturing, there is a growing acceptance of the applicability of its tenets into service industries. One such example is Swank’s (2003) case study of Jefferson Pilot Financial’s adoption of Lean. As Swank highlights, the utilization of Lean to a service industry is not only possible, but was essential in pushing Jefferson’s performance to new levels. The improved performance of Virginia Mason Medical Centre as a result of its adaptation of Lean is further proof of the applicability of Lean to service based organizations.

Although there is not a single, clear, agreed upon definition of Lean within business literature, there are a number of key principles that are prevalent in most discussions of Lean. One can argue that the “primary goal of the Lean philosophy is to be extraordinarily customer focused and responsive by ridding the entire system of waste, thereby delivering to a customer exactly what she or he wants, when she or he wants it, defect-free and on time” (Nelson-Peterson and Leppa, 2007, p. 288). Angelis et al. (2011) clarify the Lean approach through the identification of a number of foundational

principles that are key to production: eliminating wasteful activities, minimizing process variability, pursuing continuous process improvement with employee involvement, devolvement of activities such as quality inspections and periodic maintenance to line workers and maintaining synchronized production flow through visual signals.

According to Forrester (1995), the approach concentrates on wasted resources identifying that “the premise behind these lean systems is to stretch every system to allow any problems to be quickly identified, instead of being hidden under a series of contingency plans” (Forrester, 1995, p. 21). In other words, the various components of a Lean philosophy (just in time management, Jidoka, leveled production, etc.) work in tandem to easily and clearly identify areas of waste in all of the organization’s processes. Karlsson and Ahlstrom (1996) point out that Lean’s intent is to lower costs by reducing what the customer is not willing to pay for, which is waste. With this in mind, JBA (2013), through their study and development of a Lean philosophy, have identified seven wastes, originally developed by Taiichi Ohno (1988), that must continuously be attacked and removed by a Lean organization. These areas of waste are:

1. Inventory – is when anything (materials, parts, assembly parts) is retained for any length of time.
2. Motion – unnecessary movement, movement that does not add value, movement that is too slow or too fast.
3. Defects – the waste of making defective products. Waste related to costs for inspection of defects in materials and processes, customer complaints, and repairs.
4. Transportation – created by transferring, picking up/setting down, piling up, and otherwise moving unnecessary items.
5. Processing – unnecessary processes and operations traditionally accepted as necessary.
6. Overproduction – producing what is unnecessary, when it is unnecessary and in an unnecessary amount.
7. Time (Waiting) – waiting for materials, operations, conveyance, inspection, as well as idle time attend to monitoring and operation procedures.

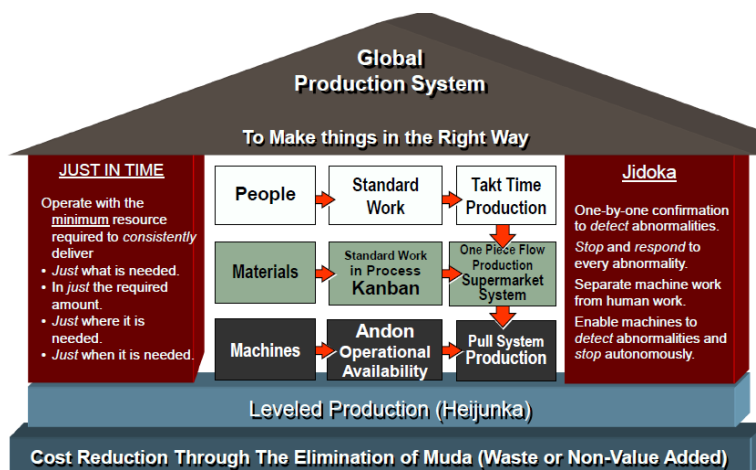
The above seven wastes can be characterized as the original, most prevalent or agreed to wastes inherent in a Lean system. However, over the past twenty to thirty years, numerous authors have attempted to identify other wastes that should be attacked as part of Lean. For example, Abdi et al. (2006) cite Womack and Jones’ attempt to add “the design of goods and services, which do not meet the customer’s needs” (Abdi et al., 2006, p. 192) as an eighth waste. They further identify the waste of human potential as an additional area that Lean organizations should focus on. Similarly, Kidwell (2006) in conjunction with the Environmental Protection Agency coined “Environmental Waste” as another waste associated with Lean philosophies that concentrates on reducing emissions and solid/hazardous wastes in the production process. As these examples highlight, it is likely that more wastes will continue to be suggested by Lean experts and authors as the philosophy continues to evolve and implementation expands throughout the business world.

Karlsson and Ahlstrom (1996) contend that continuous improvement is the second most important principle of Lean, which is most appropriately accomplished through the involvement of frontline employees. This involvement is achieved through the development of an employee suggestion scheme that provides a framework for implementing suggestions, rewarding employees for these suggestions and providing continuous feedback on the progress or status of their suggestions. One can argue that Lean is a management philosophy that must be viewed as “a total system supporting and encouraging its employees to continuously improve the processes they work on” (Bhasin, 2011, p. 987).

Karlsson and Ahlstrom (1996) subsequently contend that the implementation of Lean is also centred on process controls, standard work and quality assurance that, when combined appropriately, result in preventing defects from occurring. They identify that creating standard work and concentrating to a higher degree on controlling the process at the point of service or production leads to reduced defects. By ensuring that everyone is responsible for quality assurance instead of delegating the primary responsibility for quality control to a dedicated group of employees, a Lean organization will enhance the quality of their processes resulting in reduced waste by reducing defects.

From a Saskatchewan healthcare perspective, the main components of a Lean philosophy can be explained via the use of the Global Production System House (see Figure 4). JBA (2013) utilizes this graphical representation, that they contend was initially developed by Yshiki Iwata and Chihiro Nakao, to identify the main components of the Lean system to staff at all levels of the healthcare organization. JBA argues that the House depicts the coherence and harmony of the Lean system and that it demonstrates that Lean is a people-based system that uses Lean tools, methods, and philosophies at all levels of the organization.

Figure 4 – Global Production System House



As can be seen in Figure 4, JBA’s House is made up of the following components:

- Three operating philosophies that drive all decisions:
 - The foundation concentrates on the elimination of waste.

- The left pillar centers on a just-in-time philosophy. Besides reducing the waste of inventory, just-in-time reveals abnormalities and problems in the production system so that they can be corrected via Jidoka.
- The right pillar, Jidoka, concentrates on ensuring quality by employing one-by-one confirmation to detect abnormalities. In other words, empowering every employee to catch a mistake before it becomes a defect and implementing a management response system that assists and supports frontline staff in responding to the issues and/or abnormalities.
- Leveled production supports the Jidoka pillar by enabling one-by-one processing and establishing a visual standard for normal conditions so that problems can be easily identified.
- When working properly, the three philosophies work together to optimize the process resources (the interior of the house) of:
 - People – the appropriate and efficient use of people’s skills.
 - Materials – the appropriate and minimal levels of work in progress.
 - Machines – the appropriate and optimal use of machines.

Through the use of the House, JBA contends, “when all of the pieces are working together, the system creates a powerful cycle of continuous improvement” (JBA, 2013, p. 10). By using this never ending cycle, organizations are able to improve delivery, quality, safety, cost and morale which continuously eliminates waste from the system resulting in greater value for the customer.

In summary, it is widely believed that Lean is not just a set of management tools targeted at reducing waste and costs. Rather, it is a management philosophy that encompasses a wide number of principles that can have a profound effect on a company’s success by enhancing the value of the product or service from the customer’s perspective. A organization that successful adopts or embraces a Lean philosophy will continuously eliminate waste by empowering employees to adopt a continuous improvement program that becomes engrained within its day-to-day operations, by developing standard work that quickly highlights deficiencies in the organization’s processes so that they can be improved, and by implementing a stop the line support system that engrains safety and quality as a responsibility of every staff member.

LEAN IN HEALTH CARE

Prior to delving into the relationship between human resource management and Lean it is beneficial to review the existence of research surrounding the utilization of Lean in a healthcare environment as it can potentially provide valuable insights into the research problem.

Fine et al. (2009) argue that Canadian healthcare organizations could do more with less by attacking waste and providing an opportunity for frontline staff to improve their processes. After interviewing five Canadian healthcare organizations they suggest a number of tactics that are considered key to a successful implementation. These include employing Lean consultants experienced in teaching Lean and combining full senior leadership support with the utilization of a Lean expert lower in the organization. Finally, they conclude that by designing healthcare along the patient’s journey or value

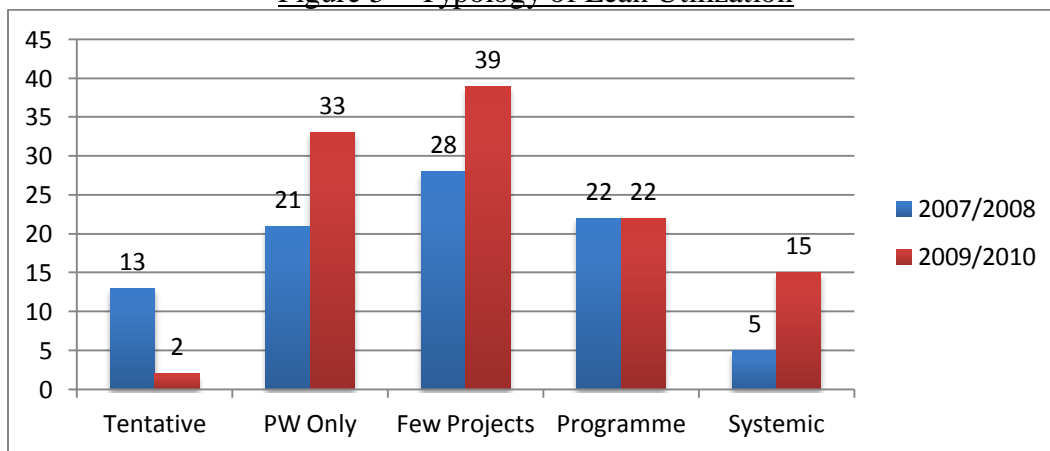
stream, Canadian organizations pursuing Lean can remove barriers, repetition and waste to deliver higher quality, less costly value-added services to their clients.

Spear (2005) clearly articulates that a number of healthcare organizations in the United States have begun adopting Lean principles and philosophies to improve their overall organizational performance. By using a number of case studies of healthcare organizations such as Virginia Mason Medical Centre and Western Pennsylvania Hospital, Spear (2005) asserts that the Toyota Production System can successfully be applied to healthcare. These organizations achieved a number of significant outcomes through incremental process improvements that are the direct result of Lean practices. He concludes that these successful companies design their work “as experiments, improve work through experiments, share the resulting knowledge through collaborative experimentation, and develop people as experimentalists” (Spear, 2005, p. 91).

In 2013, Burgess and Radnor (2013) conducted a review of the prevalence of Lean in the United Kingdom’s National Health Service as indicated via the identification of Lean implementations in hospital Trust’s annual reports or on their websites. Their study identified a twenty-five percent increase, from 80 to 111, in hospital trusts utilizing some form of Lean between the 2007/2008 and 2009/2010 operating years. This suggests that various components of a Lean philosophy are seen as viable opportunities for healthcare organizations. They further characterize and identify the increase in Lean implementations within these healthcare organizations via the five-step typology shown in Figure 5. The types are:

- Tentative – just contemplating or piloting Lean projects.
- Productive Ward (PW) only – staff are utilizing Productive Ward but no other Lean tools.
- Few projects – utilizing Lean principles and methods on a number of projects.
- Programme – Lean principles are utilized for projects expected to last between one and five years.
- Systemic – Lean principles are a part of the culture coupled with an emphasis of Lean training for all staff.

Figure 5 – Typology of Lean Utilization



Source: Burgess & Radnor (2013)

It is clear from Figure 5 that although Lean utilization is increasing, most institutions are either in the early stages of implementation or are truly only utilizing a minimal amount of the Lean tools rather than adopting an entire Lean management philosophy.

Burgess and Radnor (2013) identify VMMC in the USA, Flinders in Australia and the Royal Bolton NHS Foundation Trust in the UK as examples of extremely successful Lean implementations within healthcare organizations. For instance, the VMMC credits its adoption of a Lean philosophy as a foundational element of their continued improvement in performance, from both a quality and cost perspective. As evidence of this success, Kaplan and Patterson (2008) cite their drastic increase in patient safety alerts, from 3 per month in 2002 to averaging 222 per month in 2007, as an indication of their enhanced staff commitment and positive culture change that focuses on their customer. It is clear that these authors believe that organizations must adopt Lean in its entirety, namely at a business philosophy or systemic level, in order to become a successful Lean organization that sustains the improvements achieved through the utilization of various Lean tools and philosophies.

A review of Virginia Mason Medical Center's utilization of Lean by Nelson-Peterson and Leppa (2007) proposes that organizations can employ a Lean philosophy to create an environment of caring and by doing so, simultaneously improve engagement and overall performance. Through the adoption of Lean, VMMC has been able to remove waste from the delivery of care programs so that providers (i.e. Nurses) can purposefully spend more time providing care and/or value to the patient. By examining Lean on the firm's Telemetry Unit, they found that Lean has enabled the front-line nurses to perform the work that initially drew them to the profession – actually spending time caring for others. At the same time, the unit experienced significant increases in quality and patient satisfaction. These findings indicate that Lean has the potential to positively affect organizational performance, patient satisfaction and staff engagement in healthcare organizations.

Not all literature focused on employing a Lean management philosophy or Lean tools within healthcare portray these initiatives in a completely positive light. A review of literature on Lean by Poksinska (2010) recognized that many healthcare organizations perceive Lean as a set of tools and techniques for improving processes and not necessarily an entire management or business philosophy. By taking this narrow approach, she contends that the improvements made were rarely sustained and may have actually been detrimental to the overall organization. This sentiment is echoed by Burgess and Radnor's (2013) research which found that Lean implementation in healthcare is often patchy and fragmented. Taking this one step further, they point out that "a disjointed approach to Lean implementation delivers pockets of best practice which potentially have a negative impact on the wider healthcare system" (Burgess and Radnor, 2013, p. 223). Furthermore, Vest and Gamm (2009) reviewed a number of Lean studies and concluded that the majority of these studies were lacking in appropriate statistical analysis techniques and did not include a comparator group. As a result, they contend the effectiveness of Lean may not be as positive as many case studies portray. With that said these authors conclude that Lean implementations appear to positively

impact performance if the organization develops its people and creates a continuously improving Lean culture by approaching Lean as a philosophy rather than as a set of process improvement tools.

The above review of literature and research surrounding the status of Lean adoption within healthcare validates that the philosophy has the potential to positively impact performance within the industry. It also provides a number of insights (i.e. approaching Lean as a philosophy, concentrating on transforming an organization's culture, etc.) that may assist an organization as it proceeds along its Lean journey. With that said, Poksinska may succinctly identify the most compelling reason behind the enthusiasm surrounding the potential of Lean for healthcare organizations:

Lean production does not focus on substantial reorganization requiring large scale investments, but it gives health care organizations an alternative methodology for achieving improvements without high investments” (Poksinska, 2010, p.319).

Ultimately, the literature review clarified that a Lean management philosophy, if implemented appropriately, may just be the answer to many of the challenges facing the Sunrise Health Region and the rest of the healthcare industry.

THE HUMAN RESOURCE IMPLICATIONS OF A LEAN PHILOSOPHY

It is widely claimed that implementing a Lean management system is more than just the utilization of a number of Lean tools. Rather, as summarized by Bhasin and Burcher (2006), many researchers, practitioners and authors have concluded that Lean is an entire business philosophy that must be adopted in its entirety. They further surmise that Lean and Toyota Production System experts, such as Liker and Ohno respectively, are adamant that a total approach is necessary for the successful implementation and sustained adoption of a Lean system.

If Lean is accepted as a business philosophy, it is logical to believe that there are a number of policy and practice implications for all areas of a business pursuing its implementation, particularly human resource and operations management. Bonavia and Marin-Garcia's (2011) conclusion reinforces this idea. They posit that Lean production authors recognize the profound impact the philosophy has on companies' human resource management and the need “to jointly optimize the technological and human systems for the enterprise to meet its objectives” (Bonavia and Marin-Garcia, 2011, p. 924).

If these viewpoints are believed to be accurate, then it is prudent to review a number of human resource management concepts from a Lean perspective with the goal of determining if Lean adoption results in specific implications for the firm's human resource strategies, philosophies, policies and practices. Namely, the literature review will explore the areas of (1) organizational culture, (2) leadership and work organization, (3) worker commitment, (4) employee motivation, and (5) the potential negative human resource aspects related to Lean.

ORGANIZATIONAL CULTURE

It is widely believed that an organization's culture has a major impact on the implementation and sustainability of major change initiatives such as Lean. Specifically, it is argued that

Organizational change will only be brought about by first changing people's attitudes and values which is both time consuming and difficult. An effective implementation of Lean needs to alter the way work is done through the organization's systems, operations and procedures which are inherently linked to the organization's culture.

(Bhasin, 2013, p. 120)

Through his research on the impact of corporate culture on the adoption of Lean, Bhasin summarized existing literature to propose a number of cultural elements of which the following have specific human resource implications:

- Ensuring decisions are made at the lowest level
- Evidence of a participative leadership style with greater collaboration
- Teamwork through total involvement and committed personnel
- The work provides personal and professional satisfaction for employees
- Collaboration between the highly skilled workers and management

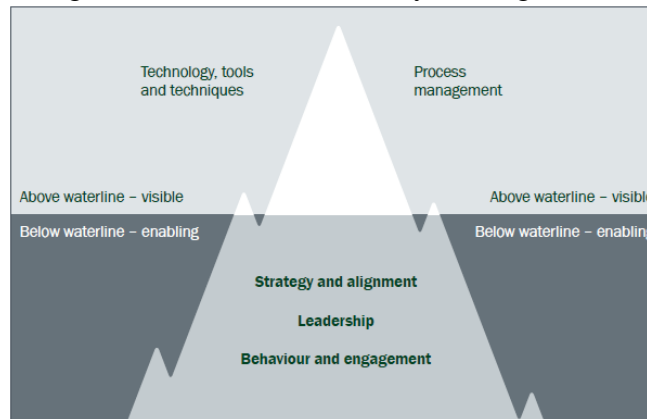
(Bhasin, 2013, p. 119-120)

He concludes that culture can be a major barrier to a successful Lean initiative but if these cultural challenges can be managed effectively, the use of Lean can result in considerable benefits for the business. He also argues that "clearer communication, more training, performance management and a clear clarity of vision" (Bhasin, 2013, p. 136) can ensure an appropriate culture.

Hines (2010a), through his work and experience with a Lean management system, proposes how organizations can develop a durable Lean culture. At the heart of his belief about creating and sustaining a Lean culture is the premise that most organizations mistakenly concentrate primarily on Lean tools and process management and that although these areas are important to success, they are insufficient on their own. Through his "Lean Sustainability Iceberg Model" (Figure 6) he contends three crucial cultural elements are required to sustain the management system. These are: strategy and alignment, leadership, and behavior and engagement. Strategy is about setting direction for ongoing improvement and success while "alignment is making sure that everybody understands the strategy, and that everything they do contributes to the success of achieving the organizational goals" (Hines, 2010a, p. 30). Leadership is about inspiring and aligning people through words and actions so that they are willing to cooperate and accept their roles in achieving the firm's direction and strategy. From a human resource perspective, he contends this includes a need to develop appropriate training programs targeted at various levels of the organization (executive, management, supervisory and frontline) to embed appropriate Lean elements into the teams' daily activities. Finally, the behaviour and engagement area concentrates on employees. He firmly believes that organizations need to focus on employees as change is normally "associated with feelings

of insecurity, uncertainty and anxiety, often leading to lack of buy-in and resistance” (Hines, 2010b, p.58) which can be detrimental to sustaining Lean change.

Figure 6 – Lean Sustainability Iceberg Model



Source: Hines, 2010a, p. 29

From a behavioural perspective, he posits that the organization must engrain Lean behaviours such as “trust, honesty, openness, consistency, respect, reflection, observation, objectivity and listening” (Hines, 2010b, p.59) while eliminating or minimizing wasteful behaviours like “blame, ego, distrust, cynicism, sarcasm, ambiguity, subjectivity, insincerity, self-imposed barriers and negativity” (Hines, 2010b, p.59). To accomplish this transformation, he recommends “examining all the elements of the organizational structure with its policies, procedures, measures and rewards to see if any are acting as roadblocks and stifling progress. Changing behaviours involves changing the culture of the organization” (Hines, 2010b, p.59). From a human resource perspective, this includes revamping the recruitment and annual appraisal process to include and emphasize Lean skills such as “customer consciousness, enterprise thinking, adaptation, taking initiative, innovation, collaboration and influence” (Hines, 2010b, p.59). He concludes that only by concentrating on employees’ emotional attachment to their work, in combination with Lean tools and process management, will a firm adequately influence their engagement and culture to successfully create and, just as importantly, sustain a lean culture.

In his summary of the Lean success achieved by Kaplan and Toussaint, CEOs of Lean healthcare organizations VMMC and Thedacare respectively, Studer (2013) portrays five key cultural characteristics associated with successful Lean organizations:

1. The organization is aligned from top to bottom;
2. Its leaders are well trained and able to cascade that training to their staff;
3. Everyone in the organization practices specific behaviours to get results;
4. The organization is geared to innovate; and
5. People throughout the organization are held accountable for their performance.

There are clearly a number of inherent human resource implications from this list. Studer asserts that a Lean organization must ensure it has a leadership development program that is congruent with Lean requirements so that the organization can change its culture.

Furthermore, it must create a performance management system (that includes daily, ongoing and annual performance monitoring) that identifies and creates accountability or an explicit expectation for all levels to exude appropriate Lean behaviours (i.e. innovation, customer centric, etc.) all the time. By creating these necessary systems and continually connecting the required behaviours to the underlying reason or “the why” behind the required behaviours, it is portrayed that the organization will truly become passionate about Lean creating the required self-perpetuating culture.

LEADERSHIP AND WORK ORGANIZATION

Forrester (1995) conducted a comprehensive review of Lean’s impact on human resource strategy. She recognized that the true philosophy of Lean was not really embedded in Taylorism; rather, the philosophy is interested in focusing on frontline staff and managers alike with a particular emphasis on transforming the leader’s role from the traditional command and control style to one of empowerment. This is accompanied by a belief that employees are best suited to improve processes and ultimately the customer experience. As a result, a flatter, matrix-based organizational structure with an emphasis on teams is identified as being inherent to success. This implies a need for human resources to develop selection strategies for the role of team leaders, development programs aimed at current and future leaders and ongoing training targeted toward teamwork and Lean tools. Finally, the shift in management philosophy and realization that employee commitment is crucial requires a shift in labour relations whereby the labour and management partners create an open, trusting relationship to ensure a secure environment where employees are empowered to identify concerns and make improvements without fear of repercussions, up to and including, losing their job.

Through their research surrounding Lean manufacturing and practice bundles, Shah and Ward (2003) connect a number of human resource related practices with a Lean management system. A specific example they provide centres around the Lean tenet of reducing work-in-process and how this requires the “development of human resource capability in the form of empowered/self-directed work teams capable of solving problems” (Shah and Ward, 2003, p. 134) so that these teams of empowered employees can identify root causes and improve workflow and equipment efficiency. By reviewing existing literature they further associate the human resource practices of “job rotation, job design, job enlargement, formal training programs, cross-training programs, work teams, problem solving groups, and employee involvement” (Shah and Ward, 2003, p. 134) with Lean. Through their work, the authors set out to determine if unionization negatively impacts a firm’s ability to implement Lean and its associated practices. Their analysis identifies that unionization negatively impacts the implementation of only six out of twenty-two practices with only two being related to HRM practices: cross-functional workforce and self-directed work teams. They conclude that these practices are directly related to managing the workforce with unionization making it more difficult for employers to change workforce rules when pursuing a Lean strategy, which is related to the collective bargaining agreements.

In his research looking at the differences between lean production and traditional production plants, Forza (1996) provides a number of valuable insights into Lean human

resource management practices and philosophies. At a philosophical level, Forza posits that inherent in a Lean organization is a belief that its human resources are no longer just an input into production (like machines and materials); rather, they are a resource who want to contribute more to the organization resulting in a need for greater collaboration. This heightened emphasis on a more collaborative and a “friendlier” approach to labour relations was echoed by Dawson (1995) in his review of an Australian oil manufacturer’s transition to Lean philosophies. Forza (1996) goes on to emphasize a need for a Lean firm to change its approach to its management style and philosophy through the utilization of teamwork, group problem solving and employee involvement. These changes result in a need for managers and supervisors to change their style and adopt new roles. Specifically, they need to act more as facilitators, coordinators and trainers while at the same time giving up some of their inherent control to their employees. With that said, his analysis did not confirm that this decentralization of authority was actually put into practice.

Mann (2009) also believes that leadership is key to success in implementing and sustaining a Lean philosophy. He contends that only twenty percent of an organization’s Lean effort should concentrate on the Lean tools while the remaining eighty percent must be spent on changing the organizational leaders’ practices, behaviours and mindset. In other words, “successful sustained Lean conversions often involve changes in culture. So it follows that success in Lean implies a change in what leaders reinforce – a change in leadership behaviours and practices” (Mann, 2009, p. 17). To accomplish the needed leadership transformation, he identifies three organizational levels or roles of leaders who must complement each other. The first is the senior executive level (CEOs and senior VPs) who, through the development of an appropriate executive governance structure, directly oversee and support the strategic value stream mapping improvement projects to ensure necessary cross-functional requirements are met and barriers are removed by ensuring accountability at the necessary levels within the organization. The second level, VPs and Directors, are primarily responsible for meeting project commitments by accepting accountability for improvements of the entire process, not just their particular area(s) of control. The third level, departmental Managers, are tasked with strictly adhering to Lean leader processes through the utilization of visual controls, following standard accountability processes and standard work for leaders. Through this standard work, Mann (2009) argues that performance will be tracked and monitored, creating transparency that enables accountability while simultaneously ensuring the execution and commitment to an ongoing cycle of root cause problem solving and process improvements. When these three interrelated levels of leaders accept and combine these roles with the requirement of all leaders to be visible and on the frontline, he contends the organization will continually make progress to creating and sustaining a Lean culture. This is supported by Martinez-Jurado et al.’s (2013) finding that training must be focused on educating and identifying employees’ new roles in the Lean system. Furthermore, Mann (2009) implies that the firm must embed these Lean leader requirements into the firm’s performance management process.

Martinez-Jurado et al. (2013) review the human resource implications inherent in various stages of Lean implementation (pre-implementation, pilot implementations, and firm-

wide deployment). From their perspective, they believe that Lean adoption requires leaders to change their role or priorities so that they are more transparent and visible to all staff. This provides leaders with the opportunity to engage staff in discussions about Lean to convince and/or persuade frontline staff about the importance and merits of the management system and tools. They also contend that the work needs to be reorganized to encompass the creation of a single Lean Leader who is responsible for Lean, the creation of teams that are supported externally, and eventually (in the final phase) the establishment of job rotation to create versatility.

WORKER COMMITMENT

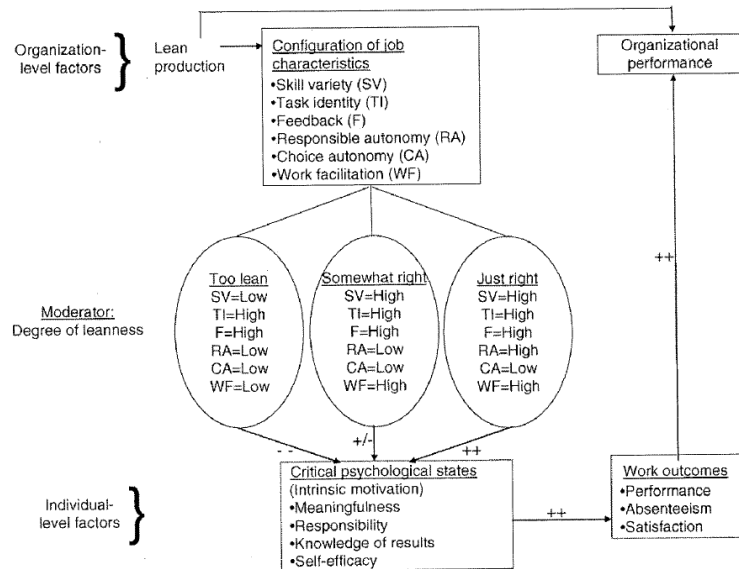
Bonavia and Marin-Garcia (2011) propose that one of the major Lean implications for human resource management is in the area of developing and maintaining a well-trained and stable workforce as they believe that “HRM aims fundamentally to support standardized work processes, the minimizing of deviations from these standards, the efficiency of the production process, the flexibility of workers and close relationships between leaders and workers” (Bonavia and Marin-Garcia, 2011, p. 933). This implication is further derived from a belief that Lean requires an expansion of employee skill sets and the motivation of these enriched employees to put in the extra effort needed to propel the organization forward. Specifically, they pose that employee development programs must encompass training related to improvement activities and problem solving techniques due to the quality improvement and employee involvement tenets of a Lean philosophy. This sentiment is shared by Shah and Ward (2007), as their research found that cross-trained, self-directed teams were able to more effectively and efficiently resolve problems. Bonavia and Marin-Garcia (2011) further investigate the implications of the company’s compensation design and internal promotion practices but could not conclusively identify that the adoption of Lean implies the use of specific human resource practices in these areas. Ultimately, their research further provides evidence that human resource management must align with Lean requirements in the areas of quality improvement, training programs, job rotation and work design.

Based upon a number of key principles of Lean philosophy, Angelis et al. (2011) conclude that worker commitment is necessary to building a lean culture. To garner the required commitment, they contend that employee involvement is required which can be partially achieved through participation in continuous improvement programs (which are a cornerstone of Lean). In addition, subscribing to a philosophy of employment stability for its workforce and a work design that includes job rotation will also benefit worker commitment. They go on to suggest that the adoption of a management philosophy that trusts and supports workers, encourages participation in decision making and is receptive to employee suggestions all aid in improving commitment, specifically affective commitment which can be defined as “an attachment to, and identification with, an organization – accompanied by a willingness to participate in activities beyond job boundaries” (Angelis et al, 2011, p. 572). These findings clearly indicate that the implementation of Lean has significant implications on human resource strategies in the areas or work design, management philosophy, leadership and training and development.

EMPLOYEE MOTIVATION

There has been considerable literature exploring the question of whether or not Lean jobs can be designed in such a manner that they are considered intrinsically motivating. de Treville and Antonakis (2005) point out that Lean proponents suggest Lean employees appear to be more intrinsically motivated while opponents of Lean identify that there are significant alienating conditions and restrictive practices that limit internal motivation leaving it to be derived mainly from external factors.

Figure 7 – The impact of Lean production job characteristics on worker intrinsic motivation



Source: de Treville and Antonakis, 2005, p. 107

By adapting Hackman and Oldham's well-recognized Job Characteristics Model (see Figure 7), they propose a number of organizational and job-level characteristics that have the potential to create an internally motivating environment for employees:

- Skill variety is increased by incorporating problem solving, appropriate training, and job rotation which will positively impacts intrinsic motivation;
- Task identity is improved as employees are better able to see how their efforts impact the whole product or service;
- Increased feedback from co-workers and via the process itself (Lean inherently makes waste or areas for improvement more visible) enhances the opportunity for enhanced internal motivation;
- By participating in developing standard procedures and when authority is transferred to lower, more appropriate levels Lean may increase responsible autonomy, which is intrinsically motivating. Conversely, Lean decreases internal motivation as employee choice is decreased;
- The feeling of competence related to completing the task required of the job (task related self-efficacy) is improved by Lean since job tasks are clearly articulated via standard operating procedures; and

- Work facilitation is a core component of a Lean philosophy and is positively related to intrinsic motivation. Note: work facilitation “refers to actions centered on removing obstacles that inhibit worker performance and on the provision of resources that are instrumental for the achievement of work goals” (de Treville and Antonakis, 2005, p. 112).

The authors conclude that Lean job characteristics, when taken as a whole (not as separate parts), operate to cause worker intrinsic motivation. However, they also posit the caveat that Lean organizations need to successfully manage the amount of ‘leanness’ it adopts as excessive leanness moderates the effectiveness inherent in the utilization of skill variety, responsible autonomy, and work facilitation as intrinsic motivation factors.

Through their research on successful Lean adoptions, Martinez-Jurado et al. (2013) highlight three human resource implications related to employee motivation. First, they found that during the adoption phases, employees were positively motivated by Lean intrinsically, not necessarily via external factors. Specifically, they contribute the use of intrinsic rewards tied to team achievements as a positive motivator. Second, they argue that employees became increasingly motivated by the success and changes achieved through the use of Lean tools (5S, Visual Management, value stream mapping). These process improvements resulted in a better workplace, including improved ergonomics, increasing engagement, which in turn improved employee motivation. Finally, the utilization of a more visual, participative management style which included the delegation of responsibility to employees assisted in the approval and motivation associated with the Lean system.

POTENTIAL NEGATIVE HUMAN RESOURCE ASPECTS RELATED TO LEAN

Within the literature, not all authors are positive about the effects of Lean. As de Treville and Antonakis (2006), point out, it is extremely plausible to believe that organizations can take various components of a Lean philosophy too far and by doing so, implement excessive leanness which can moderate or destroy the positive outcomes that can be obtained by effectively employing Lean.

Angelis et al. (2011) propose a number of practices that negatively affect worker commitment. Specifically from a human resource perspective, a practice of ignoring or not effectively managing ergonomic difficulties will result in decreased commitment of employees and can actually negatively impact worker safety. Similarly, when defects occur and are attributable to specific workers, the organization’s leadership could assign blame to the specific worker which has obvious negative impacts on the employee’s stress level and most likely the firm’s entire culture. As a result, they argue that it is essential for the management team to avoid assigning blame to specific workers, as defects are rarely employee specific. By concentrating on the defects in the process instead of assigning blame, an appropriate continuous improvement culture can be established.

In the light of evidence that worker stress was being increased as a result of Lean implementation in the auto sector (Lewchuck et al., 2001; Bruno and Jordan, 2002; Brenner et al., 2004), Conti et al. (2006) attempted to determine the effects of Lean

production on worker job stress which is an important outcome of any firms' human resource management system. They found that:

- Employee involvement and participation in a formal, organized improvement program provided the opportunity for their involvement in developing process changes (heightened job control) and using higher levels of skills which positively reduced job related stress;
- As the pace and intensity of work increased due to Lean implementation, job stress increased when workers felt that they lack sufficient time to get the work done;
- When making changes to staffing levels, it is important to only remove resources (workers) after the improvements are made;
- Lean production usually resulted in increased overtime demands, which negatively impacted worker control and consequently increased worker stress levels;
- The Lean system highlights specific worker defects increasing the opportunity for blame to be targeted at a specific worker resulting in higher job stress;
- The improvements in cycle times have the potential to negatively impact ergonomic issues due to increases in repetition resulting in heightened stress levels;
- The increase in the utilization of teams and teamwork acts as a stress reducer;
- "Task help from peers and supervisors appears to favorably impact job stress by reducing demands and increasing support" (Conti et al., 2006, p. 1029); and
- The lack of adequate tools demonstrated an absence of technical support while making it more difficult from an ergonomic and physical perspective, thereby increasing job stress.

In summary, their research concluded, "the stress reduction and stress control opportunities identified in our study show the potential for designing and operating effective lean systems while also controlling stress levels" (Conti et al., 2006, p. 1030). However, they contend if a Lean firm does not appropriately manage these opportunities, it is extremely plausible that employees' work related stress levels will be negatively impacted.

In their research into workplace transformation and employee well-being, Anderson-Connolly et al. (2002) propose that different aspects of workplace change have different effects or impacts on employee well-being. They further posit that these changes will have different impacts depending upon the position or level of the individual within the organization (i.e. managers versus front line staff). As part of their research, they identified five job structure components that were believed to affect employee well-being:

- (1) intensification of work
- (2) increased autonomy
- (3) increased skills
- (4) working in teams
- (5) increased use of technology

Their findings are summarized in Table 1:

Table 1 – Anderson-Connolly et al.’s Job Structure Components

Job Structure Component	Effect on Non-Managers	Effect on Managers
Intensification of Work	Produced more stress and poorer health related outcomes	Produced more stress and poorer health related outcomes
Increased Skill	Increased stress and reduced satisfaction as it may have been seen as another way to increase expectations and demand	Little to no impact
Increased autonomy	Beneficial to the satisfaction and health	A stressor for managers - may be attributed to reaching a point of too much responsibility or autonomy and not enough support
Increased Teamwork	Reduced satisfaction and contributed to worsening health which may have been due to the low autonomy the teams had	Increased satisfaction
Increased use of technology	Little to no impact	Little to no impact

Anderson-Connolly et al. (2002) further contend that, if the implementation of the workplace transformation is intended as a means to push workers harder, both managers and non-managers alike will most likely be negatively impacted as the increased intensity will offset any of the other positive effects. Ultimately, they believe that the implementation of systems such as Lean can be managed, by both workers and managers, in a manner which may simultaneously increase productivity and employee well-being.

Clearly, existing research on the potential negative impacts of Lean on a firm’s human resources identify that such an implementation has the potential to either negatively or positively impact its workforce. Ultimately, the effect, positive or negative, will be determined by the approach and philosophy taken by the firm’s leadership and its human resource team. With this in mind, it is important to recognize that even critics of Lean admit that “lean production will be the standard manufacturing mode of the 21st century” (Shah and Ward, 2007, p. 786). As a result, when pursuing a Lean philosophy firms must develop appropriate strategies to mitigate these potential negative impacts.

CONCLUSION

The above review demonstrates that there are a number of specific human resource management implications for organizations pursuing a Lean management philosophy. In particular, it is believed that firms should work to ensure congruence between its Lean strategy and a number of human resource management philosophies, practices and

policies (i.e. organizational culture, leadership philosophy, work organization, performance management, etc.). However, this review has yet to identify or utilize an appropriate framework by which to examine and develop a human resource strategy that is aligned and intertwined with the components of a Lean philosophy.

A FRAMEWORK FOR ALIGNING SUNRISE'S ORGANIZATIONAL AND HR STRATEGIES

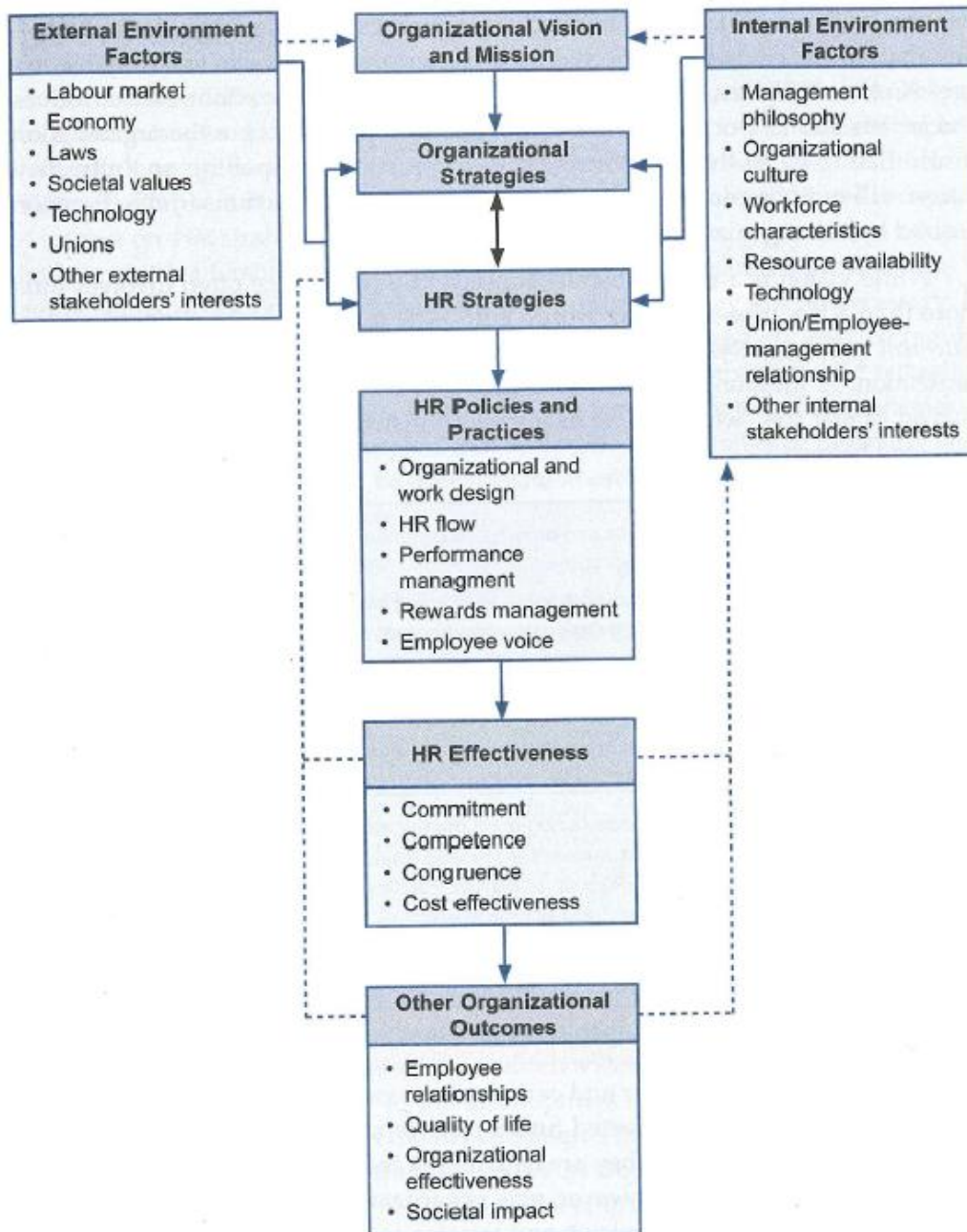
To successfully support and lead a Lean initiative it is prudent for the human resource portfolio to utilize a framework or model to ensure congruence with the entire organization's strategy. There are a number of frameworks or models available with one such example being Schuler's 5-P model. However, for the purposes of this project, Lam's (2008) Strategic Human Resource Management Model (see Figure 8) will be utilized as the framework through which to systematically identify appropriate human resource philosophies, practices and policies, within the context of the Saskatchewan Healthcare Management System, for the Sunrise Health Region. The following briefly discusses the critical components of this model.

Lam's (2008) model begins at the highest level possible, that being the organizational vision and mission. As depicted in the model's diagram, the organization's vision and mission act as a compass or guide to achieving its reason for existence and should clearly articulate the goals for the organization and take into consideration both internal and external factors.

With the mission and vision set, Lam (2008) contends that the organization can then create the necessary strategies at both the corporate and human resource levels. An important concept of this model is the explicit requirement for the organization to continue to consider both internal and external environmental factors when creating its strategies or action plans. By doing so the firm will implicitly link critical human resource factors such as the labour market, laws, societal values, unions, management philosophy, organizational culture and union-management relationships with its overarching Lean philosophy.

With a clear understanding of its strategies, the organization can then delve into the various components of its human resource systems to ultimately develop a cohesive set of policies and practices. Lam (2008) insists that these system components are intertwined and should not be designed independently of each other. She further contends that the congruence of these components (organizational and work design, human resource flow, performance management and rewards management, employee voice and involvement) is essential to overall human resource effectiveness and ultimately, organizational outcomes and effectiveness.

Figure 8 – Lam’s SHRM Model



Source: (Lam, 2008, pg. 5)

In summary, Lam (2008) construes, through the use of her Strategic Human Resource Model, that Sunrise Health Region will improve its overall effectiveness and success by systematically taking a strategic approach to its human resource philosophies and systems.

RESULTS AND ANALYSIS

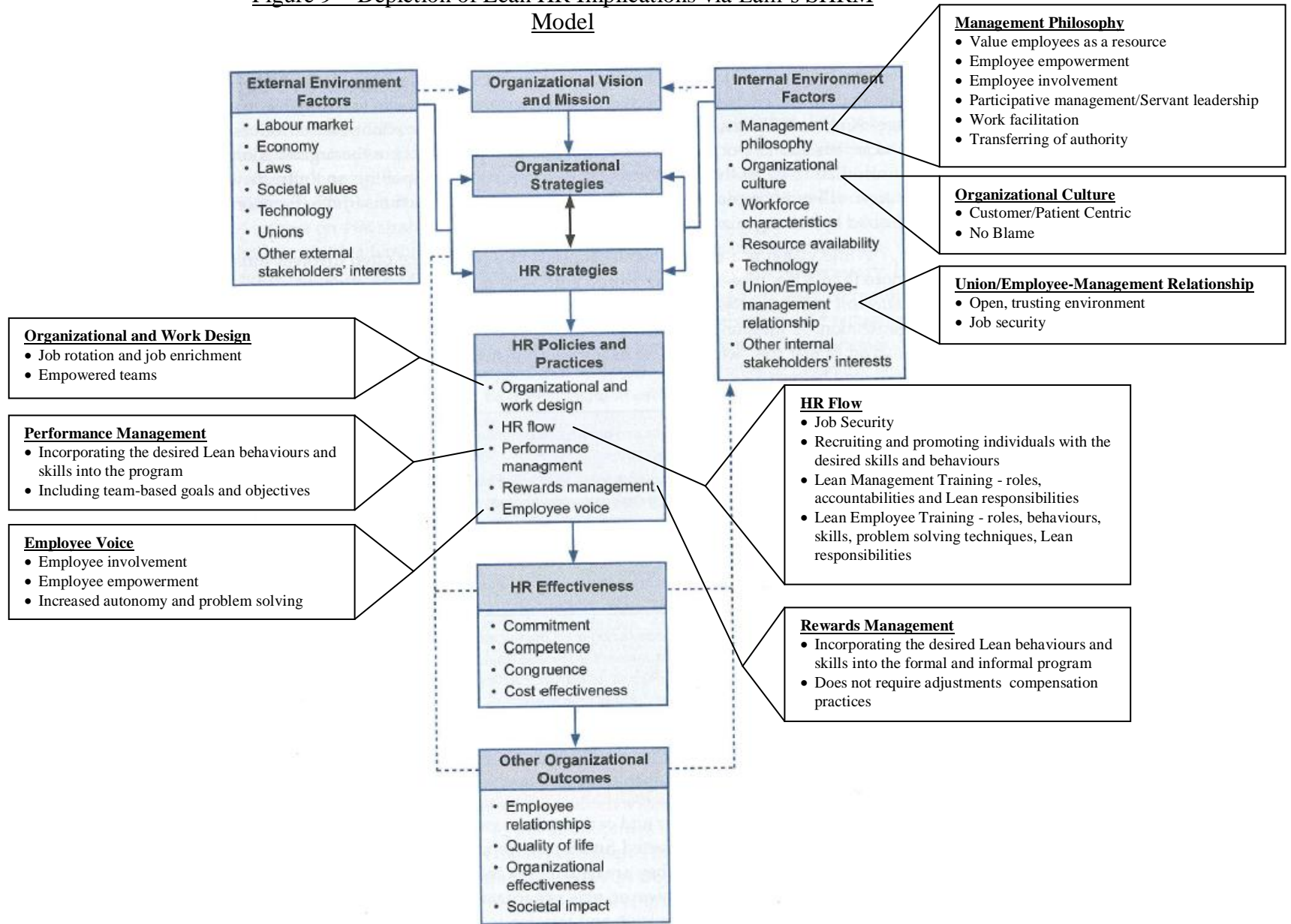
The initial purpose of the literature review was to examine the extent to which a firm's human resource philosophies, programs and policies need to be aligned to its overall strategy. The majority of the publications studied found that linking human resources with a firm's strategy does result in superior performance and therefore alignment is desirable. They thus concluded that human resource management should be strategic. However, not all the literature reviewed supports this conclusion with some authors citing a lack of data confirming the effectiveness of adopting a strategic human resource approach.

The next phase of the literature review was designed to identify the human resource and organizational implications of adopting a Lean philosophy. Although many implications were identified it was very apparent that there are not a universally accepted set of human resource philosophies, policies and practices that are required when pursuing a Lean philosophy. Bonavia and Marin-Garcia (Bonavia and Marin-Garcia, 2011, p. 925) summarized it thus:

Unfortunately, to date, the debate about what HRM practices should be considered remains inconclusive so there is not a clear list of practices, nor is there agreement on how they should be measured.

Figure 9 adapts Lam's SHRM Model (2008) (see Figure 8) to summarize the findings of the literature review to pinpoint the human resource practices, policies and philosophies that are commonly identified within the literature as being necessary for the successful implementation and maintenance of a Lean management philosophy. As can be seen, the majority of the proposed implications centre around the need to ensure the organization has an appropriate culture to support a Lean philosophy. The human resource team must develop adequate training programs to promote and encourage the appropriate behaviours and skills at all levels of the organization. Leaders and managers must understand and subscribe to the appropriate management philosophy while understanding their new roles in a Lean environment. At the same time, employees must understand their role(s), the role of the organization's managers and leaders and their corresponding Lean requirements. With this established, the firm's performance and rewards management programs must reinforce the required behaviours and skills so that the firm can ensure congruence between its culture and the Lean philosophy.

Figure 9 – Depiction of Lean HR Implications via Lam’s SHRM Model



The following section will look further at the results of the literature review as shown in Figure 9 and use them to try to identify a comprehensive set of human resource philosophies and practices for the Sunrise Health Region. The intention will be to combine these with information about Sunrise Health Region's current internal and external environments to ultimately develop a practical strategic approach to its human resource strategies and practices.

APPLYING LAM'S MODEL TO THE LEAN IMPLEMENTATION IN SUNRISE

ORGANIZATIONAL VISION AND MISSION

At the strategic level, Sunrise's vision and mission (see appendix 1) provides the broad, overarching beliefs and long term goals for the organization. From a human resource and Lean context, the vision and mission highlight a need for appropriate leadership and collaboration or teamwork to occur at all levels of Sunrise, not just at the executive or managerial levels. Based upon these long term goals and beliefs, Sunrise must develop appropriate organizational and human resource strategies to cultivate and/or acquire the right leadership characteristics throughout the organization. Furthermore, Sunrise will need to ensure that its organizational structure and human resource programs foster teamwork and a team environment.

ORGANIZATIONAL STRATEGIES

As can be seen in Sunrise's 2014-15 Hoshins or breakthrough strategies (see Appendix 2), the Region is specifically targeting improvements in the area of workplace injury prevention. Apart from the financial benefits of reducing workplace injuries, this strategy is appropriately aligned with the literature's findings that worker commitment and employee motivation are closely aligned with eliminating ergonomic issues and improving or enhancing work facilitation practices of the employer (de Treville and Antonakis, 2005; Martinez-Jurado et al., 2013; Angelis et al., 2011; Conti et al., 2006). Based upon this strategy and the supporting literature, it is extremely important for Sunrise's entire management team to take staff safety and ergonomic concerns seriously ensuring that concerns of this nature are resolved as quickly as possible. In other words, a well functioning safety management system is an essential component of a Lean human resource strategy.

In addition to the above, five of the remaining six strategic projects all concentrate on putting the patient experience first (see projects 1-5 in Appendix 2). This patient or customer first philosophy is synonymous with a Lean approach and inherently has specific human resource implications. From a training and educational perspective, all staff (managers and workers) must have an understanding of why and how to ensure they are doing what they can to improve the patient experience. Furthermore, the organization must ensure that its performance management and reward system area tailored to supporting the appropriate patient-centric behaviours. Ultimately, by developing the right human resource policies or practices in these areas, Sunrise can shift its organizational culture to one that always puts the customer (or patient) first.

Although not explicitly stated in the 2014-15 Hoshins, Sunrise's Strategic Triangle (see Appendix 1) depicts the Saskatchewan Health Care Management System as a foundational element of the organization's success. Phrased another way, an enduring and ongoing strategy of Sunrise is the implementation of Lean as a management philosophy. At the organizational level, this has numerous implications when considering Lam's external and internal environment factors. When developing its human resource strategies to align with a Lean philosophy, Sunrise will need to consider the influence of its three Union partners and their opinion of Lean and how Lean philosophies align with the interests of its various external stakeholders (i.e. Government, Professional Associations, and taxpayer associations). The internal environmental factors of management philosophy, organizational culture and union/employee-management relationship will also need to be incorporated into the human resource strategies.

HUMAN RESOURCE STRATEGIES

A review of literature pertaining to implementing a Lean philosophy clearly identified Lam's internal environment factor of management philosophy as being paramount to successful use of a Lean approach. Specifically, the organization's management team must adopt and engrain a philosophy that values employees as a resource who wants to contribute to the organization's success. This results in the need to adopt a management philosophy centred around employee empowerment, employee involvement, participative management or servant leadership, work facilitation, and transferring authority to lower levels. Furthermore, managers throughout the organization must act more as facilitators, coordinators and trainers (Forza, 1996; Bhasin, 2013; Forrester, 1995; Angelis et al., 2010; de Treville and Antonakis, 2005; Martinez-Jurado et al., 2013; Conti et al., 2006). As Sunrise's management team has not historically employed this philosophy throughout all levels of its management team, the required shift in management philosophy must be a strategic priority for the firm's human resource team.

On a similar note, many authors identify a change in roles and priorities for leaders as important for Lean success. In addition to adhering to the above management philosophy, Lean leaders must change their behaviours to be aligned with a Lean management system. First, leaders must be on the "gemba" or out on the floor with frontline staff to not only assist workers, but to also emphasize and convince staff of the merits of the Lean system (Martinez-Jurado et al., 2013). Second, leaders must be aware of both desirable and non-desirable Lean behaviours so that they can appropriately manage these behaviours through coaching and performance management processes (Hines, 2010a). As a result, an appropriate human resource strategy is to develop a Lean management/leader training program that clearly articulates the roles of the organization's leaders at the various levels of the organization: executive, director, manager, and frontline leaders. Specific to Sunrise, the Region currently utilizes the provincial Lean Leader Training program, the Saskatchewan Leadership Program and the one day Kaizen Basics as its only formal Lean-related education. The Lean Leader Training Program and Kaizen Basics do not focus on the required Lean leadership behaviours and the Saskatchewan Leadership Program is currently available to only a small portion of Sunrise's management team. These are limitations currently faced, thus Sunrise must strategically develop a Lean Manager/Leader training program that

complements the existing educational programs so that all managers and leaders are acutely aware of their required roles, responsibilities and behaviours.

Most authors accept that an organization's culture is something that is developed over an extended period of time and is not something that can be altered quickly. However, over time it can be changed through effective leadership and management (Bhasin, 2013; Hines, 2010a). With this in mind, the literature identifies the development of a culture that does not assign blame as paramount to Lean success (Angelis et al., 2011; Hines, 2010a). By doing so, staff will not be afraid of experiencing defects in processes nor will they be hesitant to raise client and staff safety concerns as they know they will have the required management support to fix the process instead of being blamed for the issue. To this end, Sunrise's human resources team must create a strategy that discourages blame at all levels of the organization. As organizational culture is exhibited in the behaviours of its members, it is then crucial for Sunrise's management team to promote behaviours (through performance management and informal rewards) conducive to identifying and reporting both safety issues and process defects.

As identified in Lam's model, Unions and union-management relationships are factors that should impact a firm's organizational and human resource strategies. From an external perspective, the acceptance of Lean as an appropriate management philosophy by Sunrise's Union partners at the Provincial level can have significant negative or positive impacts on the Region's internal ability to sustain a Lean management philosophy. At the present time, the Saskatchewan Union of Nurses (SUN) Provincial leaders have expressed concerns about Lean and its applicability to nursing processes and its members (The Canadian Press, 2014). Furthermore, various union leaders and members in CUPE have expressed concerns, although not publicly, about Lean and its potential effects on its membership. If the provincial union leadership continues to philosophically withhold support for Lean it will have a potentially devastating impact on the ability of Sunrise to achieve support and agreement for Lean with its staff and internal union partners. As a result, Sunrise must develop a strategy to discuss and educate its Union partners on the actual tenets of Lean and to involve them in Lean processes so that they become comfortable with its philosophies, processes and outcomes.

It is clear that adopting Lean is a major change initiative that will impact everyone within the organization. Both Bhasin (2013) and Hines (2010a) identify that the adoption of Lean results in significant change for workers, both managers and frontline staff alike, and that the effects of change must be appropriately managed if the firm is to successfully sustain a Lean environment. To accomplish this change management agenda, Sunrise must strategically invest in its human resource team to ensure they are proficient in change management so that they can lead and support the required organizational change (Yeung and Brockbank, 1994).

HR POLICIES AND PRACTICES

In addition to the above strategies, Sunrise must also review and adapt many of its policies and practices to make them congruent with the human resource implications that are inherent with a Lean strategy.

Organizational and Work Design

Throughout the literature, numerous authors cited the employer's need and desire to implement job rotation or cross-training as it may provide an opportunity for enhanced employee motivation while at the same time increasing the employer's flexibility to meet demand across occupations. Shah and Ward (2003) found that unionized environments limited the employer's ability to rotate or cross-train staff between occupations, facilities and departments which is consistent with some of Sunrise's experience. With that said, Sunrise can utilize its options available in the current CBAs by ensuring that the job classifications employed provide the most flexibility (i.e. employing environmental-laundry-food services worker positions instead of employing a environmental services worker, a laundry services worker and a food services worker) and defining departments with the most flexibility possible (i.e. defining a nursing department to encompass more than one unit so that staff can be cross-oriented and float between the units based upon demand). Clearly, from a human resource practice perspective, Sunrise must review its current work design to ensure that appropriate flexibility is attained. When it does so, it must couple the increased variety with increased discretion so that the employees experience job enrichment instead of simply job enlargement.

The other design consideration is the utilization of empowered teams to meet work demands. In the Sunrise context, many work groups currently exist (i.e. care teams consisting of various providers – Registered Nurses, Licensed Practical Nurses, Continuing Care Aides and Unit Clerks) but they may not function as a true team whereby “they combine their efforts to achieve a common goal” (Lam, 2008, p. 79). To encourage further team formation and the creation of high performing teams, the Region must develop appropriate human resource practices that emphasize team levels goals and performance metrics instead of concentrating primarily on individual goals and accountabilities.

HR Flow

When considering human resource flow, one of the first requirements of a Lean management system is the identification of, and commitment to, ensuring job security for staff as they partake in Lean activities that eliminate waste as these activities may ultimately include the elimination or change of their current positions or duties. Sunrise must clearly adopt and communicate its practice of no layoffs resulting from Lean improvements. The Region must also commit to its staff that they will be retrained and/or reassigned if they find themselves in this situation. By doing so, Angelis et al. (2011) argues that worker commitment will be improved thereby potentially increasing affective commitment to the organization.

Prior to delving into the areas of human resource flow, performance management and rewards management it is essential to outline the behaviours and skills that are desired by

a Lean organization. Table 2 identifies the Lean behaviours and skills that are required throughout a Lean organization.

Table 2 – Lean Behaviours and Skills Identified in the Literature Review

Desirable Behaviours	Undesirable Behaviours	Lean Skills
Trust	Blame	Customer consciousness
Honesty	Ego	Enterprise Thinking
Openness	Distrust	Adaptation
Consistency	Cynicism	Taking Initiative
Respect	Sarcasm	Innovation
Reflection	Ambiguity	Collaboration
Observation	Subjectivity	Influence
Objectivity	Insincerity	Teamwork
Listening	Self-imposed barriers	Developing and following standard work processes
Reporting safety issues	Negativity	Problem Solving
Safe work practices	Remaining Silent	Investigation
Inquisitiveness		Participative Management
Managing on the Gemba		Servant leadership
		Work facilitation

If a Lean organization, and more specifically Sunrise, adopts the above list of behaviours and skills as essential to establishing and maintaining a Lean culture, the organization can then develop particular human resource practices in the areas of recruitment and promotion. When recruiting individuals into the organization, the human resource department should include selection criteria and processes that examine a potential employee’s behavioural tendencies and aptitude toward employing the desirable skills and behaviours. From a promotional perspective, an organization must ensure that its interview and selection process not only examines the behavioural tendencies but also ensures that individuals potentially moving into a management or leadership position subscribe to the previously identified management philosophies.

The final area of human resource flow impacted by the adoption of Lean is that of training and development. When considering training and development, an organization must take a multi-pronged approach to the training of its entire staff:

- Lean Management Training – the desired management philosophy and associated behaviours must be clearly articulated to existing and potential managers. Although Sunrise already partakes in Lean Leader Training, this training primarily concentrates on Lean tools and the Lean philosophy but does not delve into the human resource aspects of Lean. Furthermore, the Saskatchewan Leadership Program may cover numerous aspects of required Lean leadership behaviours but it may not cover all of the required areas (i.e. roles and employee behaviours) nor will it be available to all of the management team in a timely manner. As a result, additional training must clearly identify Sunrise’s management philosophy, the desired behaviours and skills of Lean employees, the

- desired leadership style and traits, and as identified by Mann (2009), the various roles of each level of the management team and frontline staff.
- Lean Employee Training – in addition to the existing Kaizen Basics training, all non-management staff must be educated on (1) the various roles within a Lean system, (2) the desired behaviours and skills of Lean employees and their managers, (3) problem solving and root cause analysis techniques due to expected improvement activities and authority being pushed to the most appropriate level and (4) teamwork skills (where applicable).

By providing this additional training, all staff within the organization will be acutely aware of their expectations, roles and responsibilities giving all participants

Performance Management

One of the biggest challenges associated with a successful Lean implementation is the need to change an organization's culture so that it is congruent with the Lean management philosophy (Bhasin, 2013; Hines, 2010a). In order to change culture, the organization must change the behaviours of its leaders, managers and staff so that the "new", desired behaviours become the way things are normally done within the organization. To accomplish this task, Sunrise's performance management program must be revised so that goals, measures and ongoing feedback concentrate on the identified skills and behaviours (see Table 2). Furthermore, the system must place appropriate emphasis on team related goals and objectives in situations where the use of empowered teams has been implemented. Over time, the incorporation of these Lean requirements into the performance management system will shift the culture to the desired state – one that complements a Lean philosophy instead of undermining it.

Rewards Management

Similar to the adjustments made to the performance management system, the Region's rewards management program must be developed to highlight and promote Lean behaviours and skills. As identified by Bonavia and Marin-Garcia (2011), the implementation of Lean does not necessarily require a change to the firm's compensation practices. Regardless, due to being a unionized environment, Sunrise would find it extremely difficult to change compensation practices to "reward" employees for Lean behaviours. As a result, a formal and informal recognition program highlighting and recognizing employees and teams for exemplary Lean performance (skills, behaviours and accomplishments) should be developed to reinforce the Lean culture.

Employee Voice

The need for increased employee (and team) involvement, empowerment and autonomy are consistently identified in the literature as a requirement of a Lean management system. To truly create this type of work environment, the organization's managers (at all levels) must be willing to release some of its authority and power and shift their style to one of participative management or servant leadership. As identified above, this can be accomplished by explicitly adopting the appropriate management philosophy and leadership style through the implementation of appropriate human resource strategies and programs (training, performance management and rewards management).

WHERE NEXT?

By utilizing Lam's SHRM model, the above analysis demonstrates that a number of human resource strategies, policies and practices can be developed and implemented to strategically support the organization in changing its culture to one that complements and fosters a Lean management philosophy. With this established, the following section provides recommendations specific to Sunrise that are intended to achieve congruence between Sunrise's strategies and its human resources.

RECOMMENDATIONS

The results of this applied project have demonstrated that it is reasonable to believe that a strategic human resource management approach will result in superior performance. With this in mind, as Sunrise continues to pursue its strategy of adopting a Lean management philosophy, it must take into consideration the inherent human resource implications associated with the philosophy. Most importantly, Sunrise must ensure the organization has an appropriate culture to support a Lean philosophy. To do this, its human resource team must clearly articulate the organization's management philosophy, the desired behaviours and skills of its management team and frontline workers alike, and develop appropriate structures and programs (recruitment, training, performance management, rewards management and labour relations) to support the organization in transforming its culture to be one that is aligned with the philosophical tenets of Lean management.

The following seven recommendations are intended to provide the strategic human resource roadmap to support Sunrise in transforming into an exemplary Lean organization that takes a patient first approach in everything it does:

1. Defining the Philosophy– Sunrise's leadership team must clearly define and articulate its management philosophy and the desired Lean behaviours and skills of its management team and its staff, respectively. The philosophy should, at a minimum, incorporate the items identified in Figure 9 (page 38) but may be expanded to capture other management beliefs of the executive team. In defining the management philosophy, Sunrise must also emphasize a culture committed to being customer/patient centric and the need to subscribe to a belief of no blame.
 - Responsibility: Sunrise Executive Leadership Team
 - Deadline: September 1, 2014

2. Developing 'Lean' Managers – as previously articulated, Sunrise's current Lean management training program relies upon the provincial Lean Leader and Saskatchewan Leadership Training programs. Although these programs are considered to be excellent in accomplishing their intended purpose, it leaves a gap in educating Sunrise's current management team (approximately 130 individuals). To bridge this gap, the Region must develop a management training program that clearly articulates the Region's management philosophy, the expected Lean management behaviours and skills, the roles of Sunrise's management team, the expectations of Employees (behaviours and skills), and the tools that will be employed to ensure an understanding of and accountability for exuding the Lean philosophy at all levels of the organization.
 - Responsibility: Director of Staff Services
 - Deadline: Development – November 30, 2014
Delivery – January to March 2015

3. Developing 'Lean' Employees – Sunrise is currently providing Kaizen Basics training to its entire staff. Although this program is an excellent introductory course to Lean tools and the tenet of eliminating waste, it does not delve into Lean behaviours, skills and expectations of employees and managers. To bridge this gap, the Region must develop a training program that clearly articulates the Region's management philosophy, the expected Lean behaviours and skills, the roles of Sunrise's management team, the expected role of employees and the commitments of the Region to a culture without blame coupled with no layoffs resulting from Lean improvements.
 - Responsibility: Director of Staff Services
 - Deadline: Development – March 1, 2015
Delivery – April 2015 to March 2016

4. Engaging our Union Partners – establishing and maintaining an open and trusting relationship with unions has been identified as an important factor in ongoing Lean success. To this end, Sunrise must clearly articulate to its union partners what pursuing a Lean management strategy entails for the organization and its employees. The outcome of this strategy is to ensure that the union partners understand what Sunrise is intending to accomplish and, just as importantly, what Sunrise is not trying to do via the adoption of a Lean management philosophy. To accomplish the desired transparency and trust, Sunrise's union partners must be provided:
 - a) The Lean Manager Training (recommendation 2) and Lean Employee Training (recommendation 3) so that they understand the philosophies, expectations and requirements of the Region's management team.
 - b) Formal training on the Lean tools and techniques that will be employed as part of the Region's quality improvement initiatives.
 - c) A commitment that layoffs will not occur as a result of Lean improvements.
 - Responsibility: VP of Strategy and Partnerships
 - Deadline: March 31, 2015

Recommendations 5-7 are to be developed based specifically upon the Executive endorsed management philosophy, behaviours and skills as identified in recommendations 1, 2 and 3.

5. Revamping Recruitment and Promotion Practices – the human resource team must revamp Sunrise's employee selection criteria for its external and managerial recruitment needs. To accomplish this, a required component of all interview guides and applicant selection processes must be a standard evaluation tool intended to highlight the potential applicants' propensity to display the required behaviours and their knowledge and ability to employ the required Lean skills.
 - Responsibility: Manager of Employment Services
 - Deadline: April 30, 2015

6. Revamping Performance Management – Sunrise must revamp its performance management system at the executive, managerial and frontline levels. For the executive and management level, this will require the updating of the existing management performance accountability agreement to include the explicit requirement of the utilization of the required behaviours and skills into the process. For frontline staff, the performance management process must be entirely reconfigured to ensure that Sunrise’s managers are providing ongoing feedback encouraging the desired behaviours and skills while at the same time discouraging undesired behaviours. Furthermore, the formal frontline performance appraisal process will need to be updated to include the behaviours and skills as well as the establishment of team performance goals and metrics where the establishment of teams is deemed appropriate.
- Responsibility: Manager of Staff Relations
 - Deadline: April 30, 2015
7. Establishing a Rewards Management Program – Sunrise must establish a formal rewards management program that recognizes its teams and staff for the demonstration of Lean related behaviours, skills and accomplishments. Currently, the only formal recognition program within Sunrise is a long service recognition program. When developing the recognition program, the following items must be taken into consideration:
- a) An appropriate timeframe for each component of the rewards program (i.e. monthly, bi-monthly, quarterly, semi-annual).
 - b) A mechanism to reward/recognize employees who have been identified by their fellow co-workers or manager for exhibiting the required behaviours and/or skills.
 - c) A mechanism to reward/recognize a team who has achieved team level goals or objectives.
 - d) A mechanism to reward/recognize a manager who has provided ongoing performance feedback (not via a formal performance appraisal) to their Staff.
- The rewards management program does not need to result in a significant financial benefit to the employee(s), rather it needs to provide meaningful recognition to promote the desired Lean related behaviours, skills and accomplishments.
- Responsibility: Director of Staff Services
 - Deadline: April 30, 2015

By implementing these seven recommendations, it is believed that Sunrise will lay the strategic human resource foundation required to change its culture from its current state to one that supports a Lean management philosophy. By doing so, Sunrise will create an environment that strives to continuously improve while always putting the patient experience first.

CONCLUSION

The literature review conducted as part of this applied project clearly recognized that the existing work focusing on Lean and human resources has mainly concentrated on specific human resource components instead of reviewing the human resource implications of a Lean management philosophy at a higher, strategic level. By applying the findings of this literature review through Lam's (2008) strategic human resource management framework, this applied project has clearly provided a number of practical human resource implications that organizations should consider when contemplating or implementing a Lean management philosophy.

By completing and analyzing current literature, this applied project has provided the opportunity to make a series of recommendations that are based upon existing research through the adaptation of Lam's (2008) framework, rather than relying solely on the thoughts or musings of a human resource practitioner to provide a set of recommendation. By taking this approach, it is believed that the following seven recommendations will be seen as a credible action plan that will result in congruence between Sunrise's human resources and its Lean management philosophy:

Recommendation	Responsibility	Deadline
1. Defining the philosophy	Executive Leadership Team	September 1, 2014
2. Developing 'Lean' managers	Director of Staff Services	March 2015
3. Developing 'Lean' employees	Director of Staff Services	March 2016
4. Engaging union partners	VP of Strategy and Partnerships	March 31, 2015
5. Revamping recruitment and promotion practices	Manager of Employment Services	April 30, 2015
6. Revamping performance management	Manager of Staff Relations	April 30, 2015
7. Establishing a rewards management program	Director of Staff Services	April 30, 2015

With that said, this project does have its limitations. First, the project did not delve into the existence or identification of appropriate methods of measurement that may potentially be utilized to determine if the human resource programs are effective in supporting the implementation of a Lean management philosophy. Second, the project did not identify an appropriate method for measuring and ensuring congruence between the various components of a Lean organization's human resource philosophies, policies and practices so that an organization can ensure that all of its human resource programs are supporting its overall strategies. A potential area of future research could concentrate on identifying the extent to which firms pursuing a Lean strategy have implemented human resource strategies and programs targeting the implications identified in Figure 9 (page 38). This research may further attempt to correlate the adoption of these programs

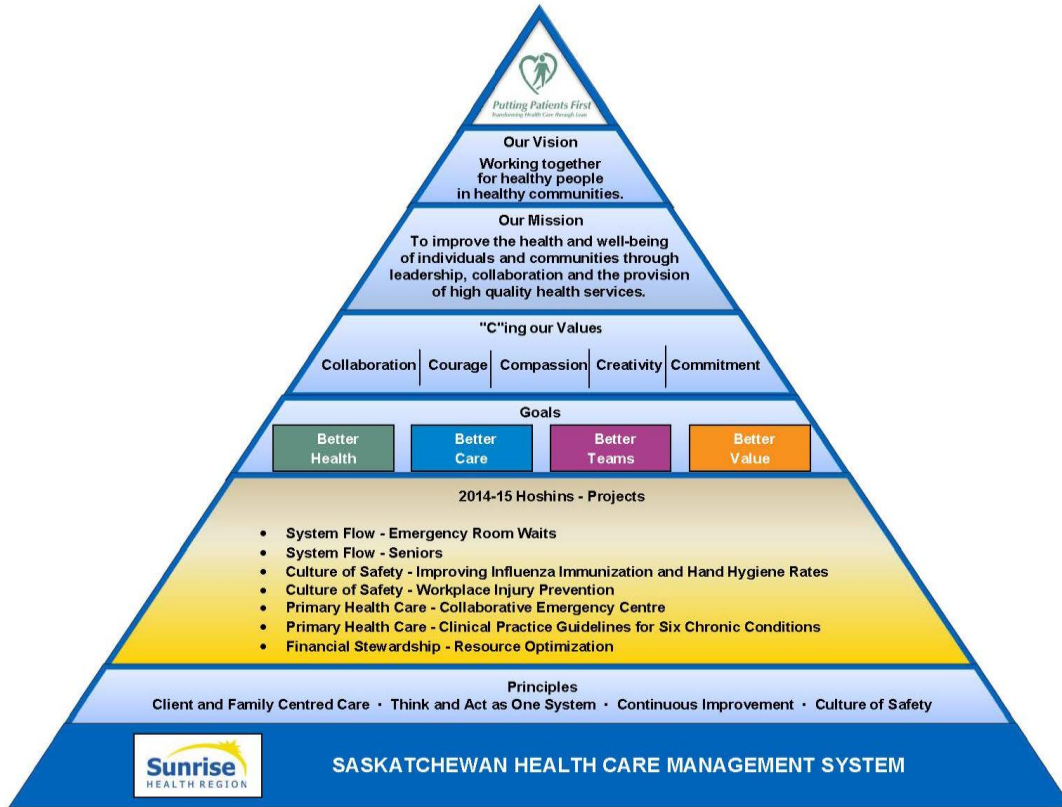
with overall firm performance to determine if there is statistically significant evidence supporting this project's findings.

From a practical perspective, it can be concluded that Lean is more than just a set of quality improvement tools; it is a philosophy that has significant human resource management implications. Therefore, a firm pursuing a Lean management philosophy must ensure that its human resource programs, policies and practices are strategically developed and targeted to change and/or reinforce an appropriate culture. Furthermore, these human resource practices must clearly articulate and reinforce the expected roles, behaviours and skills of the firm's leaders, managers and front line staff within the context of a Lean management philosophy. By doing so, the entire organization will have a clear understanding of what they need to do to be successful which will, in the long run, contribute to improved performance of the organization.

Ultimately, by adopting the findings of this applied project and implementing its recommendations it is anticipated that the Sunrise Health Region, and other healthcare organizations in Saskatchewan, will be able to take a structured and evidence-based approach to developing and transforming its human resource philosophies, practices and policies to be strategically aligned with the system's Lean management philosophy. By doing so, Sunrise's most important asset, its people, will be better positioned to lead and engage in the transformational change effort rather than oppose it, thereby greatly increasing the likelihood of changing its culture to one committed to zero defects through employee empowerment that put's the patient experience first.

APPENDICES

APPENDIX 1 – SUNRISE’S STRATEGIC INTENT TRIANGLE



Goal: Better Health

Hoshin: Primary Health Care

- By March 31, 2015, 10% more family physicians are providing care to patients as part of a primary health care team.

Projects	1	<p><u>Collaborative Emergency Centre - Canora</u> Primary Owner: Sandy Tokaruk, VP of Integrated Primary Health Care</p> <ul style="list-style-type: none"> By September 2014, Canora will have a functioning Collaborative Emergency Centre that will provide robust Primary Health Care daytime services including extended hour service and weekends. By September 2014, Canora will have access to alternate models of emergency services, 24 hours per day, 7 days per week; Registered Nurse/Paramedic with support of off-site physician. By March 31, 2015, mobilize/empower the community to actively develop and participate in strategies to improve health.
	2	<p><u>Clinical Practice Guidelines for Six Chronic Conditions</u> Primary Owner: Dr. Phillip Fourie, VP of Medical Service</p> <ul style="list-style-type: none"> By March 31, 2015, provincially developed guidelines for the management of 6 common chronic conditions will be fully implemented at all Primary Health Care sites. By March 31, 2015, team-based care delivery will be in place for management of 6 common chronic conditions. (diabetes, coronary artery disease, congestive heart disease, chronic obstructive pulmonary disease, asthma, depression) By March 31, 2015, there will be a system in place for connecting unattached patients and referring patients with 6 common chronic conditions to ensure patients receive team based care that is consistent with provincial guidelines.

Goal: Better Care

Hoshin: System Flow

- By March 31, 2015, at least 85% of patients requiring admission from Emergency Rooms are admitted to an appropriate bed within 5 hours.

Projects	3	<p><u>Emergency Room Waits</u> Primary Owner: Roberta Wiwcharuk, VP of Integrated Health Services</p> <ul style="list-style-type: none"> By March 31, 2015, there will be a 50% decrease in patient wait times in the Yorkton Regional Health Centre Emergency Room. By March 31, 2015, at least 85% of patients requiring admission from the Yorkton Regional Health Centre Emergency Room are admitted to an appropriate bed within 5 hours.
	4	<p><u>Seniors' Care</u> Primary Owner: Roberta Wiwcharuk, VP of Integrated Health Services</p> <ul style="list-style-type: none"> By March 31, 2015 no more than 3% of acute care beds will be occupied by long-term care residents waiting placement. By March 31, 2015 the Alternate Level of Care Policy will be implemented consistently across the Sunrise Health Region.

Goal: Better Teams

Hoshin: Culture of Safety

- By March 31, 2015, we will increase safety for patients and staff.

Projects	5	<p><u>Influenza Immunization and Hand Hygiene</u> Primary Owners: Christina Denysek, VP of Strategy & Partnerships and Roberta Wiwcharuk, VP of Integrated Health Services</p> <ul style="list-style-type: none"> By March 31, 2015, the hand hygiene rates for all staff will be 100%. By March 31, 2015, 85% of the staff, who do not have valid medical contraindications, will receive the annual influenza vaccine.
	6	<p><u>Workplace Injury Prevention</u> Primary Owner: Christina Denysek, VP of Strategy & Partnerships</p> <ul style="list-style-type: none"> By March 31, 2015, the region will have reduced incidents to less than 120 incidents annually. By March 2015, there will be focused attention on the first 3 elements of the Safety Management System: <ul style="list-style-type: none"> Element 1 – Management and Leadership Element 2 – Hazard Identification and Control Element 3 – Training and Communications By March 2015, there will a 50% reduction in transfer, lifting and repositioning (TLR) injuries. By March 2015, standard work will be developed for investigations and root cause analysis training provided to out-of-scope supervisors, managers, senior leaders and co-chairs of Occupational Health Committees. By March 2015, Job Safety Analysis will be completed for 100% of high-risk healthcare positions. By March 2015, there will be a 50% reduction from baseline in the number of accepted Workers' Compensation Board time loss injury and medical aid claims (cannot exceed 2,530 claims).

Goal: Better Value

Hoshin: Financial Stewardship

- By March 31, 2015, balanced budgets achieved.

Projects	7	<p><u>Resource Optimization</u> Primary Owners: Christina Denysek, VP of Strategy & Partnerships and Lorelei Stusek, VP of Corporate Services</p> <ul style="list-style-type: none"> By March 31, 2015, we will have spent 1% less on straight time worked hours and premium hours than in 2013/14. By March 31, 2015, in Sunrise Health Region we will achieve a balanced budget.
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