

### Purpose

The purpose of this research is to extend the concept of myopia and introduce the concept of labor market myopia (LMM), as well as the role that Human Resources Management (HRM) plays in its prevention and resolution. LMM, a more specific form of factor market myopia (FMM), is a myopic view of labor needs. LMM is only going to increase as human capital becomes increasingly scarce due to labor shortages.

### Design/methodology/approach

This conceptual review focuses on research on factor market rivalry in the supply chain. Using three sample job categories, the concept of myopia is applied toward the human resources context to propose a new term describing a failure to consider future labor needs.

### Findings

The authors position HRM/talent management as critical in preventing and addressing LMM at both firm and industry levels and the critical role of labor markets in factor market rivalry. HR strategies are suggested to prevent LMM include: expansion of the available workforce; increasing current workforce productivity, economic remedies like paying higher wages, and proactively assessing and forecasting the current and future human resource capacity and needs.

### Practical implications

Labor needs to be considered as a factor in the same realm of importance as other resources. The HR strategies discussed are key to preventing LMM and improving organizational performance and effectiveness.

### Originality/value

The authors argue that organizations not only compete for resources downstream (i.e. customers and markets) but also upstream, such as with human resources. The authors introduced a new concept/term to frame the effect on organizations when supply chain planning and HR strategy do not take labor into consideration. This was accomplished by first narrowing the concept of marketing myopia to factor market myopia, and in this conceptual paper, it was subsequently narrowed to introduce the term labor market myopia.

**Keywords:** labor market, factor market, workforce planning, human resources strategy, supply chain management

## Labor markets: Preventing rivalry and myopia through HRM

### Introduction

Competition for resources is increasing. Customer expectations are growing and organizations across industries face globalization and marketplace pressures. The majority of management research in competitive dynamics has concentrated on downstream competition between firms such as those competing in the same geographic market for similar products (Chen and Miller, 2015). However, organizations compete for resources both downstream (i.e. customers and markets) and upstream (i.e. supplies and inputs) (Schweiterman and Miller, 2016). Upstream, supply side competition can be over raw materials (Bell *et al.*, 2012), suppliers' innovations (Pulles *et al.*, 2014) transportation (Ellram *et al.*, 2013), distribution channels (Capron and Chatain, 2008), and patentable technologies (Markman *et al.*, 2009).

Firms also compete for human capital or human resources -- the people who have knowledge, skills, and abilities to complete a given task. This competition for human resources is a form of factor market rivalry (FMR) (Ellram *et al.*, 2013; Markman *et al.*, 2009; Authors, 2017). Markman *et al.* (2009) defined FMR as rivalry for resource positions that might flare up at any point in the value chain.

Just as product markets seek not just consumers, but consumers with money; labor markets seek not just workers, but workers with useful skills. Firms, and even industries, often choose locations without fully analyzing key factor markets including labor markets. Ellram *et al.* (2013) cite many examples of labor market rivalry between firms that do not compete with one another in product markets. Many managers are blindsided by the actions of other firms they previously did not view as competitors. Authors (2017) described a failure to see, or prepare for, impending supply chain shortages as a form of marketing myopia; a factor market

myopia (FMM). The authors suggested that FMM is a foundational element in FMR and is the reason for surprise when an organization does not completely consider all potential elements affecting its need for resources. In the current research we narrow the concept further and introduce a new term describing a failure to consider future labor needs, which we refer to as labor market myopia (LMM) – a more specific form of factor market myopia (FMM).

Myopia was originally put forth by Levitt (1960) when he suggested several industries, including the railroad industry, of defining themselves too narrowly. As such, these industries were left at a competitive disadvantage in the broader marketplace because they did not consider all of the relevant factors like resource supply, competition, and consumers impacting their products or services. We now see the same effect in labor factor markets. Too often, firms ask themselves the question: Does China have enough cheap labor to make our goods? But these companies should be asking: Does China have enough *available* labor to make our goods?

The difference in the questions may seem subtle, but the answers can differ greatly. And it turns out that the answer to the specific, second question recently has been ‘No’. The Guangdong province of China, known as the production center of the nation, suffered from a labor shortage in 2012 (Bell *et al.*, 2015; Ellram *et al.*, 2013). China as a whole is expected to have a workforce surplus of 55.2-75.3 million workers in 2020, but that is likely to become a shortage of 24.5 million by 2030; Brazil will have a shortage of 8.5 million workers by 2020, with the expected shortage rising to 40.9 million by 2030 (Strack *et al.*, 2014). These conditions are likely to make FMR for labor even more intense.

The authors introduce this new term and position Human Resources Management (HRM) as critical in preventing and addressing LMM and therefore increasing organizational effectiveness. Recent research on factor market rivalry in the supply chain examines labor as the

factor provoking the most rivalry (Balmer, 2011; Ellram *et al.*, 2013; Authors 2017). Factor market rivalry for labor is only going to increase as human capital becomes increasingly scarce. Labor shortages are already occurring in multiple industries across countries and are predicted to worsen in the next several decades (Strack *et al.*, 2014). Focusing on labor as the factor for which firms compete and for which myopic thinking results in dire circumstances illustrates the importance of understanding LMM, and how human resources management (HRM) is the locus for prevention and treatment of LMM.

In this analysis, we provide additional research in FMR and also further develop the concept of LMM, suggesting how FMR is caused by LMM. This research addresses the distinct gap in the literature of a lack of recognition of the critical role of labor markets. It is important to develop theory to understand how both LMM and FMR affect organizational effectiveness and performance. Additionally, it is critical to offer different strategies that organizations can use to minimize and prevent the negative consequences of LMM.

We extend theory using a conceptual, theory-building approach and by integrating the literatures of supply chain management, human resource management, and competitive dynamics theory, grounded in the resource-based view. We offer four broad human resource-related strategies: expansion of the available workforce; increasing current workforce productivity, compensation remedies, and strategic human resources planning. We look at the first three of these strategies at two levels: the industry and the firm. The final section describes theoretical and managerial implications and identifies future directions.

## **Literature Review**

### *Factor Market Rivalry*

Our initial statements may seem extreme—that supply chains collapse without enough of the right people—but these statements seem less so as supply chains become the foundation for rivalry between firms, industries, and even nations (Gligor and Holcomb 2014, Lambert and Cooper, 2000). FMR takes place at both regional and local levels, so strategies and policies must take that rivalry into account at both levels. Failing to account for FMR quickly becomes a form of marketing myopia, of looking at a potential labor market too narrowly, of looking at too small a set of potential rivals for resources, of defining the potential labor forces too narrowly.

Resources are defined as the intangible or tangible financial, organizational, physical, intellectual, and human capacities available to the firm that enable it to increase its competitive advantage (Hunt and Davis, 2008; Newbert, 2008). Firms now compete for supply side resources including raw material (Bell *et al.*, 2012), transportation (Ellram *et al.*, 2013), distribution channels (Capron and Chatain 2008), and the human resources needed for a firm to possess pertinent knowledge, skills, and abilities. This competition for human resources in the form of factor market rivalry (FMR) has been introduced in the literature (Ellram *et al.*, 2013; Markman, *et al.*, 2009; Authors, 2017).

Resource shortages in recent years of both logistics capacity and labor have been attributed to unanticipated competition from adjacent or unrelated industries – from resources previously not seen as critical and organizations heretofore not seen as competitors. Ellram *et al.* (2013) discussed how firms did not anticipate competition from those in different product markets, yet the organizations utilized some of the same supply markets. This therefore makes them competitors, leaving managers blindsided due to unexpected competition. As an example, Hirschinger (2016) discussed the possibility of factor-market rivalry among shippers in emerging markets. The author stated that large multinational corporations are already venturing

into these markets and that increased demand could constrain logistics capacities and infrastructure. The author discussed the need for efficient transportation and logistics systems and the importance for managers to consider the implications of FMR.

Just as with the supply chain research, the competitive dynamics literature has focused on downstream competition rather than upstream, particularly those that compete in the same geographic markets. Chen and Miller (2012) describe competitive dynamics as a study of firm actions and interactions, with the goal being to discover which actions best enable a firm to overcome or defend against rivals. In other words, competition is viewed as a zero-sum game. Chen and Miller (2012) propose a relational view – suggesting that relational competition requires a strong awareness of the competition, threats from rivals, and rivals' resource advantages and gaps, as well as their potential for collaboration. Thus it is important to find ways to obtain better resources than competitors in order to gain the advantage when there are shared supplier networks. Gardner (2005) describes direct competition for human capital between firms, which can manifest in several ways. To gain advantage over rivals competing for human resources, firms can utilize strategic and unique recruitment efforts or use compensation and benefits to their advantage. They can also hire away competitor's employees, thereby decreasing competitor's supply of human resources.

Cappelli (2009a) argued that applying a supply chain management approach to talent management may help organizations ensure a sufficient supply of human resources in an uncertain environment, helping predict both supply and demand. The author suggests that earlier talent management and HR planning practices no longer work because today's environment is different and less certain. In this current environment, Cappelli argues that managers cannot accurately forecast their talent or business needs and offers new strategies to help organizations

better accomplish these tasks including borrowing ideas from supply chain management (Cappelli, 2009b). If the purpose of supply chain management is strategic coordination to reduce uncertainty (Mentzer *et al.*, 2001), it seems logical to extend the benefit into HR planning and talent management. Utilizing supply chain management principles is not to view people as physical inventory, but rather to help coordinate human resource needs from a different perspective to pair talent management with a firm's strategic needs (Cappelli and Keller, 2014).

Why do firms need to think differently about labor? Because employees are different. Cafferkey *et al.* (2017) discusses the changing role of employee commitment to an organization. Gone are the days of a worker being committed to an organization because of shared workplace values and beliefs (Yalabik *et al.*, 2016). Rather, employees seem to be looking for more in terms of self-identity, work-life balance, and intrinsic value derived from jobs than simply looking at a job as a means to a paycheck (Olsen *et al.*, 2016). If employees view their roles, careers, or jobs differently, perhaps firms should view access to employees and potential employees differently too. Access to labor, talent in a sense, can create value (Sparrow and Markham, 2015). Specific labor management strategies in industries facing a shortage of talent can be thought of as a marketplace weapon where a realization occurs that access to and employment of human capital means another firm will be at a competitive disadvantage.

Employees are valuable resources that can serve as a tool for competitive advantage (Barney and Clark, 2007). The resource-based view illustrates the role of valuable resources and how reducing the quantity of available competing resources can weaken a competitor's production capacity (Capron and Chatain, 2008). Strategy scholars studying employee poaching (Gardner, 2002, 2005; Rao and Drazin, 2002) have acknowledged the competitive interactions of firms and the resulting implications (Lerner *et al.*, 2003). Both the gaining of competitive

advantage and the reduction of the competitor's advantage are examples of firms competing for human capital and the value this provides (Bell et al. 2015; Schwieterman and Miller 2016). As Porter (2011) stated, how a firm acts and reacts in relation to its rivals is a critical determining factor of its performance.

So why not engage in workforce planning in a way that is effective and offers a competitive advantage? Cappelli (2009a) argues that estimating the demand for talent is much more difficult than the supply side of planning for talent. The author suggests that borrowing from the supply chain management field will help determine how to ensure supply when the demand is uncertain. The author also argues that it is not that difficult to get significantly better at workforce planning. At the moment, most firms do little or no planning, which essentially means that every development comes as a surprise and the only response is to react to those responses after the fact. The means for responding – outside hiring for shortfalls, layoffs for surpluses – has become expensive and difficult. This research supports Cappelli's arguments in suggesting that workforce planning and talent management is important and that it is critical to find new ways to successfully accomplish it. The research adds to Cappelli's argument by suggesting that the lack of effective HR planning and talent management is a form of myopia, and that the labor market plays a critical role in factor market rivalry.

Ellram et al. (2013) described FMR in three broad categories: 1) firms that compete in product markets also compete in factor markets, usually with some forbearance; 2) firms in the same industry who target different segments in the product market, but overlook FMR until one firm changes product market strategies to overlap with others in the industry; and 3) firms that compete in factor markets, but not in product markets. For our analysis, we labelled these three categories PM, FM1, and FM2—product market, factor market with the potential to compete in



product markets, and factor markets only. Competition is likely to increase in all three categories in the near future with labor shortages in various global geographic markets (Strack *et al.* 2014).

### *Factor Market Myopia*

Factor market myopia applies to a greater or lesser extent in each of these broad categories. Ellram *et al.* (2013) used the automobile industry as a global example of the first category, PM. Automobile companies compete for auto buyers, but also for auto workers. This would not seem to be a market in which factor market myopia would play a significant role.

Not yet, but that is part of Levitt's point in describing myopia. Currently, U.S. automakers see FMR in the context of the labor market of autoworkers, but people who can be trained as autoworkers can also be trained as defense manufacturing workers or chemical manufacturing workers—and vice versa. People with skills may not be completely interchangeable, but a significant portion of their skills will transfer fairly readily to other industries and even to other categories of industry. As labor shortages become critical, the forbearance in these labor markets may well vanish and FMM will be problematic.

In the second category, FM1, FMR clearly exists. However, firms seem to be unaware of FMR until one or more firms change strategy in ways that attack other organizations in product markets. A similar process likely takes place as in the first category once the strategic change occurs, but firms could avoid problems with a broader view of the labor factor market beforehand. Because the FMR becomes apparent to managers abruptly, the forbearance described in the first category does not arise. Firms immediately start to deal with the FMR, even though FMR's effects may already be damaging.

In the third category FM2, FMR is the only arena in which the firms compete, so FMM is likely to change the nature of the competition. Managers in firms in various industries have a customer orientation or a market orientation, so they are preoccupied with competition in their single industry and with the actions and reactions of immediate competitors in product markets (Heiser *et al.*, 2005; Richard *et al.*, 1992). This is a form of classic marketing myopia, but it is also the cause of FMM and LMM. By looking only forward toward the customer, managers overlook the competition taking place further back in the supply chain (Bell *et al.*, 2015). Hertz (2006) pointed out that overlapping and competing supply chains can cause problems with collaboration, resource use, and long-term relationships.

Another major element of FMM stems from how firms view the labor force itself. Many supply chain jobs the authors examined (see Table 1) have a tradition of employing mainly men. That tradition will continue to restrict the potential strategies that the respective industries can follow because they have created these jobs for men, not women, and seem to assume that the ideal job for women will be the same as for men.

#### *Resource-Based View of the Firm and HR Strategy*

The resource-based view (RBV) assumes that resources and capabilities are distributed differently among firms, and that valuable and rare resources which are inimitable and non-substitutable will lead to a competitive advantage, resulting in improved performance (Newbert 2008; Powell 2001). However, it is troubling if firms limit their RBV to only the rare and difficult to replace or replicate, especially in the context of the supply chain and factor market rivalry. Gómez-Cedeño *et al.* (2015) argued that a firm's human resource practices need to be aligned with its supply chain management in order to promote their integration and improve

business outcomes. Lado and Wilson (1994) discussed how RBV in a human resource system can contribute to either sustained competitive advantage or competitive vulnerability.

It should be noted that the RBV also fits nicely with the network view of supply chains in this context. 'It is a basic assumption in the network perspective that the firm's continuous interaction with other players is an important factor in the development of resources and skills,' (Skjoett-Larsen 1999, p. 42). Resource-based theory pushes companies to focus on core competencies, especially those that are rare or valuable, difficult to imitate, and socially complex (Skjoett-Larsen 1999), yet FMR changes how 'rare or valuable' might be defined.

Human resources strategy has evolved over the past 20 years, with the nature and role of Human Resource Management (HRM) becoming increasingly strategic. Today, HRM is a critical business partner. Some have argued that it is the lack of HR involvement that causes the best conceived corporate strategies to fail (Treen, 2000). HR decisions can be a valuable resource for companies and have an important influence on organizational culture, capabilities, and performance (Boselie *et al.*, 2005; Saá-Pérez and Garcia-Falcon, 2002) through human and social capital (Wright *et al.*, 2001). In fact, research has shown that the greatest benefits occur when HR is a strategic business partner and plays an active role in developing and implementing business strategies (Bahuguna *et al.*, 2009; Lawler and Mohrman, 2003), including the alignment of processes, competencies, and skills, helping to attain long-term strategies and goals. (Treen, 2000).

One strategic way to prevent LMM is to coordinate supply chain strategy and HR strategy to ensure an integration with corporate strategy. Balmer (2011) discussed the importance of a strong connection between the supply chain, this view of the firm, and HR strategy. As supply chains reached across oceans and long distances in conjunction with globalization,

usually in search of inexpensive labor, they were adopting, perhaps unconsciously, a resource-based view of the firm (Srinivasan *et al.*, 2014).

The idea of coordinating HRM strategy and supply chain strategy is hardly new (Gomez-Cedeno *et al.*, 2015; Hunt and Davis, 2008). Research suggests that HR practices can affect supply chain management strategy indirectly through organizational culture (McAfee *et al.*, 2002) through resource alignment (Richey *et al.*, 2011), and through managerial competencies (Gomez-Cedeno *et al.*, 2015). McAfee *et al.* (2002) argued that culture is important to fostering positive supply chain relationships and saw critical differences between the HR approaches of supply chain strategies that were transactional versus those that were relational. Similarly, Shub and Stonebraker (2009) discussed the relationship of HR variables and organization variables with supply chain integration and performance. Thus, HR strategy has a significant effect on culture, which in turn relates positively to supply chain relationships. It is incumbent on an organization to bring the two strategies together and enable HR to play a critical and strategic role in a firm's performance and effectiveness.

Previous research has discussed factor market rivalry but has not analyzed factor market rivalry as a result of labor market myopia and lack of HR planning. Human resources are versatile, mobile, and more susceptible to factor market rivalry (Markman *et al.*, 2009). We argue that because of this, HR should have a 'a seat at the table;' that HR should have equal influence in organizational decision-making; that HR planning can largely prevent LMM and mitigate factor market rivalry; and that the lack of HR planning itself is actually negligent and myopic. Tying HR strategy to corporate strategy and organizational growth plans, in other words, connecting HR functional strategies to business priorities, should be pursued jointly by corporate HR teams, divisional counterparts, and with involvement of line leaders (Kesler,

2000). Research has shown that strategic HRM leads to higher organizational performance and competitive advantage (Collins and Clark, 2003). Thus it is critical that organizations are strategic in HRM decisions and allow HRM to be the locus for prevention and treatment of LMM.

In Table 1 the authors choose three jobs in the transportation industry to illustrate examples of FMR and evidence of LMM. In Table 2 the authors present strategies for avoiding the LMM, and thus the FMR.

Table 1. Examples in three industries

	Truck drivers	Pilots	Aircraft Technicians
Evidence of FMR	High turnover	Fewer pilots; carriers competing; high turnover	Shortage of aircraft maintenance personnel
Evidence of LMM	Limited pool of people who already have commercial driver's licenses: Failure to recognize competing companies in resource markets: Truckload firms compete with LTL firms and private fleets for the same potential driver pool	Pilots can work for airlines or military, major or minor carriers, corporate or commercial.	Similar occupations to aircraft technicians include automotive mechanics, electricians, mechanical engineering technicians, and network computer systems administrators

Table 2. Suggested Ways to Address Human Capital Factor Market Issues

	<b>Strategic Goal</b>	Expand Workforce	Increase workforce productivity	Economic Remedies
<b>Policy Level</b>				
Industry		Public-Private Partnership (PPP)	Substitute technology	Increase compensation
Firm		Hire unavailable competitors; build supply	Compensation strategy	Increase compensation

### **Suggested strategies for dealing with labor FMR**

As shown in Table 2, we analyze two levels of HR strategy that may affect LMM: the industry and the firm. The strategies themselves are likely to address three issues: expanding the potential workforce, making the existing workforce more productive, and increasing compensation-related incentives. Firms or industries may invest in training programs designed specifically to graduate workers for their needs—medical coding programs at community colleges in the U.S., for example. They may make the workforce more productive by encouraging and teaching the use of newer technology throughout the industry. Firms may recruit non-traditional workers, or utilize compensation to motivate and reward productivity.

#### ***Expand workforce***

HRM professionals are in the best position to expand the available workforce for a specific job or job category. In this section, we look at policies that might be implemented at both firm and industry levels and then examine them in the context of the three sample job categories.

#### ***Workforce Expansion and Industry***

Industry actions intended to expand the workforce often suffer from problems, and FMR aggravates those problems. If the rivalry for skilled workers is between industries, there is little

reason for firms in the respective industries to cooperate in workforce expansion. In fact, industry-wide initiatives are likely to be directed at competing for skilled labor - not sharing the labor. This means that one industry can gain at the expense of another.

Another way that an industry can approach this problem is to promote itself to non-traditional workers. For example, in all three of the job categories in our discussion, the shortage of female workers is well-documented—and the respective industries have all attempted to recruit more women, but with limited success in the U.S.

Additionally, the U.S., like many other countries, is experiencing a strange paradox. There is a severe shortage of technically qualified individuals for a number of job categories including truck drivers, pilots, and aircraft mechanics while there is also a high rate of underemployment among four-year college graduates (Gray and Bae, 2009). In addition, the earnings advantage associated with a college degree as compared with a high school diploma is no longer rising like in the past (Vedder and Strehle, 2017). Admittedly, not every college graduate can be appropriately trained for jobs like pilots and aircraft mechanics. However, the issue needs to be recognized if the potential labor force is to be expanded.

One possible solution is an industry-wide approach to training (Hampson *et al.*, 2012). In this instance, companies within the industry could coordinate and train new workers, either for employment within the individual company, or for a central organization that handles the maintenance for a number of aviation companies. Grassroots efforts may be what is needed to encourage potential workers to train for, and begin a career in, aviation maintenance or another with a similar situation. Perhaps a stronger dependence on apprenticeship programs is in order, as in Europe. A recent U.S. News and World Report recently stated that the United States is

reviewing European apprenticeship models in order to offer a fast-track, on the job training model because a large number of white-collar professions remain unfilled (Krupnick, 2017).

Another potential tool uses technology to aid in the training and safety of employees. For example, for aircraft maintenance, an on-line maintenance assistance platform ensures maintenance steps are completed and common errors indicated to assist the maintenance worker repairing or maintaining an aircraft (Liang et al., 2010). This on-line maintenance platform can be augmented with virtual reality training terminals which can recertify technicians in the field and/or remotely introduce new maintenance procedures (Rupasinghe et al., 2011).

Regardless of how it occurs, HR and the firms, as well as the industry, must review the approach for attracting and retaining employees. HR practitioners can review strategy and practices currently used for attracting and retaining employees. Individual firms have had some success in recruitment strategies, especially strategies that expanded the demographic composition of the labor force—older drivers, minorities, and immigrants have all become part of the driver labor force at one time or another. HRM is critical to implementing new and effective policies and procedures in this area.

#### *Workforce Expansion and the Firm*

A firm could gain a major advantage if it could hire workers that were not available to competitors. HRM would be critical to this strategic move. This, however, might put the firm in the position of becoming the entryway into the industry. It may mean developing its own, high-cost training program, but then risking the loss of the trained worker to competitors who offer higher pay or better jobs.

The first airline to design a pilot's job to fit the needs of women will probably gain a major advantage under conditions of labor FMR, for example. In the absence of industry



initiatives and changes in national policy, individual firms may find themselves limited in their options. However, HRM can work on family-friendly policies and practices, reduce subtle discrimination experienced by women, and increase recruiting efforts to attract more diversity in both gender and race. These policies may come with a cost but should prove to be a win in a cost-benefit analysis.

A firm can also enhance its reputation so that it garners increased interest in employees relative to rivals, and thus gain access to a larger potential supply of workers and/or a superior group of human resources. It can be more flexible with work arrangements, for example, hiring workers to work from home. This opens the potential to sourcing a much larger pool of applicants. There are multiple HRM related practices an organization can engage in to attract more applicants than its competitors, whether it is a result of moral and ethical practices and policies, benefits offered, alternative work arrangements, and/or an investment in training and development of employees.

### ***Increase workforce productivity***

Some policies at each level are likely to increase workforce productivity. Again we look at two levels of HR practices that might be implemented and examine them in the context of the three job categories.

#### ***Workforce Productivity and Industry***

Understanding the state of the U.S. economy, with its large, innovative, and diverse economy, as well as the global economy, is an important first step in understanding the forces that are driving demand for new aviation systems and services, affecting the labor FMR for pilots and aircraft operators and technicians, as well as truck drivers. New technologies affect all three job

categories. Pilots have more automated systems, aviation technicians and mechanics monitor aircraft engines in flight, and truck drivers get new loads from satellite systems and cell phones.

The use of newer technology throughout an industry may increase productivity, but human elements still act as a constraint. While technology can assist pilots, mechanics, and truck drivers, all three still suffer from fatigue, distractibility, and the need to constantly update training. New technology may mean new skill sets, so industry initiatives may be needed to bring people up to the level of the technology. This applies especially to aircraft mechanics.

This also suggests some limits on industry lobbying efforts with regard to hours of service limits, crew rest, and other safety regulations. While the airline and motor carrier industries may want greater productivity, they should not seek it at the cost of reduced safety, or even reduced perceived safety.

#### *Workforce Productivity and the Firm*

Organizations increase the productivity of their workforces in different ways. One method in which HRM plays a strategic and critical role is in compensation strategy. Incentive pay rewards employees for attaining a predetermined goal and are used to motivate employee productivity (Martocchio, 2015). Performance-enhancing compensation practices are designed to increase employee productivity through greater accountability (Samnani and Singh, 2014), especially when incentives are directly tied to performance. Financial incentives have been proven to relate positively to performance (Shaw and Gupta, 2015). A performance-based compensation system with an objective to encourage and reward productivity will include pay and bonus incentives to reflect clearly defined revenue and/or earnings targets for employees at all levels. These pay plans are a clear and direct method for HRM to help improve its company's productivity.

In addition to encouraging higher production through compensation, other methods have proven successful. Frequent feedback and a future, goal-oriented performance management process should accompany the compensation system in order to encourage and motivate employees. A sense of purpose and understanding of employee role in the process are examples of how to help employees engage.

*The Firm and Substituting Technology for Labor to increase productivity*

In many industries, technology has replaced many workers. Technology has ended many career fields entirely, or almost so. Some of those effects come from policies adopted at both firm and industry levels. But as the discussion will suggest these three jobs are at least partially immune to that substitution in the near term. The realization should exist that technology may be a capability enhancer and not necessarily a job replacer.

When people feel that technology threatens their jobs, motor carriers and aviation firms will probably see strong opposition from employees and from unions (Nunes, 2015).

Nonetheless, severe shortages and FMR may provide one impetus for adopting more technology by both firms and employees (Ollove, 2016). If customers find ways to work around the bottlenecks created by labor and capacity shortages, equipment and workers may sit idle.

Employees may see this threat and be motivated to adopt new technologies and practices so that their jobs, their employers, and their industry do not become obsolete or irrelevant. Employees view it differently when they see technology as fueling growth and helping them become more productive, rather than as displacing them. (Lepak and Shaw, 2008; Snell and Dean, 1992).

The trucking industry offers an example of technological change that affected demand for skilled labor. Trucks have quite simply become larger since the 1930s, when 30 foot trailers were the norm, a norm that rose steadily to the current size of 53 foot trailers. This size increase

required action at all levels of policy and strategy. U. S. national policy had to change for infrastructure to be built that could accommodate larger trucks. While we tend to associate technology with IT and sophisticated machinery, these seemingly simple technological changes made the trucking industry far more efficient, reduced the need for truck drivers, and so reduced the potential for FMR.

Firms which require their own aviation mechanic support may employ technology initiatives to augment the current workforce. First, they might integrate advanced record-keeping systems with the GPS tracking of the fleets to help decide when and where preventive and other scheduled maintenance should take place. This automated schedule not only encourages efficiency, it also assists in setting the appropriate levels of staffing. Electronic or on-line conferencing may also increase the quantity of fleet maintenance performed without compromising quality (Liang, et al. 2010).

Finally, productivity improvements based on labor and technology, can actually also give firms an idea if engaging in talent management LMM strategies make sense. If productivity levels remain static no matter the composition of the labor force, and labor is readily available, LMM should not be an issue. Rather productivity can be used as a gauge to assess if fighting the deleterious effects of LMM and FMR should be a focus. Increasing compensation in the face of same or decreasing productivity levels is an equation that does not hold over time and may be the first indicator that LMM is present. For example, if firms and industries are essentially trading employees with productivity levels static and rising rates of pay, LMM is present. Firms and industries can combat this LMM with having talent management strategies that look to expand the skilled labor force available to firms.

## ***Economic Remedies***

### *Industry and Economic Remedies*

At the industry level, economic remedies are limited in the case of all three job categories. The trucking industry is one of the most competitive, functioning industries in the U.S. and in most parts of the developed world. That means nearly universal rate increases are unlikely, although they were common in the U.S. from 1949-1980. The airline industry is similarly competitive, but currently uses its economic power to underpay pilots - a poor long-term strategy.

### *The Firm and Economic Incentives*

HRM and the compensation strategy need to ensure the ability for an organization to attract and retain high quality employees. The best incentive is a compensation package that is at least competitive with other businesses in the industry. This can include increased salaries, additional benefits, or both.

Of course the value of compensation is in the eye of the beholder. What one employee values may not satisfy another, therefore, a smart approach is to offer a competitive package with benefits in the form of a cafeteria plan, enabling employees to select what is most attractive to them. The other difficulty associated with this strategy is that if it is successful, then it will be copied by other firms in the industry. Soon, what was an exceptional compensation package is no longer exceptional, and costs go up for everyone in the industry.

## **Strategic Human Resource Management and Planning**

Strategic human resource management (SHRM) scholars have traditionally drawn from the RBV as a framework for viewing HR as a potential competitive advantage (Truss *et al.*, 2002). In the RBV, internal resources are perceived as the best source of sustained competitive advantage. Non-Substitutability, as a criteria for the RBV, suggests that it should not be possible for the

same, or strategically equivalent, resources, to be deployed by other firms. This is problematic in the current environment of uncertainty and FMR, as external hires and employee poaching become increasingly common. In a competitive market, organizations need to strategically recruit employees to rise above the competition.

Despite the fact that the importance of strategic HR/planning was identified as early as 1998, (Lam and Schaubroeck, 1998), a 2004 study by the International Public Management Association for Human Resources (IPMA-HR) indicated that strategic workforce planning is still a relatively new practice for many of the organizations, as only 37% had any plan in place, a fact perhaps indicated by the low survey response rate (Johnson and Brown, 2004). A more recent survey does not indicate great progress. Cornerstone OnDemand and Worldwide Business Research (WBR)'s 2014 benchmark survey revealed that 76 percent of human capital executives surveyed felt their current employee management programs and procedures fell short of where they needed to be.

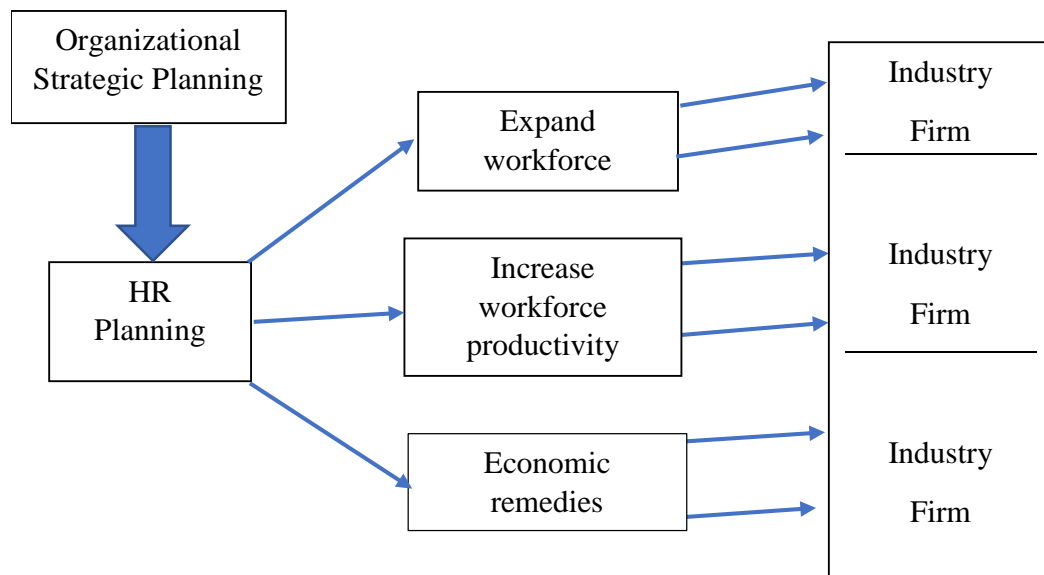
Yet HR planning/talent management is important, particularly when considering the RBV, which assumes that resources and capabilities owned or controlled by a firm can reduce costs, respond to environmental opportunities and threats, and, if valuable, will create competitive advantage. This suggests that a firm's competitive advantage is relative to the value of its resources and capabilities (Newbert, 2008). In addition, these advantages may enable the firm to improve its short-term and long-term performance and effectiveness (Eisenhardt and Martin 2000; Newbert 2008; Powell 2001).

Strategic HR planning and forecasting should be a critical foundational component in preventing LMM, and thus FMR. It links HR, labor, directly to the organizational plan. Skaggs

and Youndt (2004) empirically supported a relationship between strategic positioning and human capital and suggested that the proper fit among these variables affects performance.

In the public arena, workforce planning allows for building long-term capacity. A 2007 study shows its use increasing in federal government, but less within state and local governments (Choudhury, 2007). The workforce is changing, technology is becoming more important, the skills required by most jobs are increasing, and retirements are looming. These conditions make workforce planning increasingly important. Not only is the workforce key to sustainable long-term success, strategic workforce planning identifies the human capital needed to reach organizational goals (Cotton, 2007). Below (Figure 1) is a model depicting the authors' suggested strategic process of avoiding labor market myopia.

Figure 1. The strategic process of avoiding labor market myopia



## Conclusion

In this manuscript we have discussed the situation of FMM, FMR, and introduced the term LMM - where firms compete for people with knowledge, skills, and abilities. FMR and labor market rivalry can be prevented and addressed at both the industry and firm levels, and HRM can play a critical role in this process. As labor becomes increasingly scarce and shortages worsen, the problem of LMM will become even greater. We have suggested strategies and policies that organizations can use to address this. Three HRM strategies for dealing with the causes of FMR in supply chain labor markets include: expansion of the available workforce; increasing current workforce productivity (including substitution of technology for labor); and economic remedies like paying higher wages. The fourth strategy discussed where HRM can play a critical role in preventing LMM, is in HR planning.

To be sure LMM may be impacted by things not currently discussed in the manuscript. For example, labor migration and outsourcing should be further analyzed when it comes to LMM, FMR, and talent management strategies. One specific strategy to avoid LMM may be to further expand the use of apprenticeship programs like in Europe (i.e. Denmark, Germany, the United Kingdom) or utilized in the United States for certain occupations like property appraisers. Taking strategies that some locations or industries have used to address LMM and training gaps should be reviewed to see their broad applicability. Finally, training for HR managers must reinforce that thinking outside the box for access to new talent is a valid approach to help eliminate LMM. How can HR professionals work to safely and appropriate increase the population of people for prospective jobs. Our belief is that the deleterious effects of LMM must be better understood.

Labor, as a factor, needs to be considered in the same realm of importance as other resources. LMM can be significantly reduced, or even prevented by assessing the current and



future HR capacity and needs, particularly in conjunction with an organization's strategic goals. In turn, organizational performance and effectiveness will be positively affected.

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