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## Logistics salience impact on logistics capabilities and performance

#### Abstract

Purpose – The purpose of this manuscript is to assess the impact of logistics salience on logistics capabilities and performance. Specifically, the impact of logistics salience on logistics innovativeness and logistics service differentiation is measured along with logistics innovativeness and logistics service differentiation effect on logistics performance. Design/methodology/approach – Conclusions were drawn from survey data gathered from logistics and supply chain managers at US firms. Structural equation modelling was utilized to measure the statistical significance of the hypothesized model paths with all findings meeting the basic requirements of interpretation. Findings – The results suggest that logistics salience positively impacts both logistics innovativeness and logistics service differentiation. Logistics innovativeness and logistics service differentiation both positively influence logistics performance. These findings give credence to the resource based view of the firm which states that resources lead to capabilities which leads to performance. Research limitations/implications – Conclusions based on the study's results highlight the importance of logistics within firms and indicate that the function must be made salient throughout the firm to further capitalize on the benefits of logistics. These benefits include enhanced logistics capabilities and their eventual impact on logistics performance. Originality/value – Using the resource based view of the firm as the theoretical framework, the manuscript supports the notion that logistics salience is an important resource for firms looking to provide differentiated services and innovative logistics operations to their customers.

#### Keywords

Logistics salience, Logistics innovativeness, Service differentiation, Distribution management, Innovation, Supply chain management

#### Disciplines

Business Administration, Management, and Operations | Management Sciences and Quantitative Methods | Operations and Supply Chain Management | Organizational Behavior and Theory | Technology and Innovation

#### Comments

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## Logistics Salience's Impact on Logistics Capabilities and Performance

#### **INTRODUCTION**

Logistics has long been recognized as a potential source of competitive advantage for firms (Bowersox et al., 2000). Leveraging existing or developing new logistics capabilities is one way for firms to create value for customers and themselves (Esper et al., 2007, Mentzer et al., 2001). However, the benefits of logistics can often be mitigated by other firm employees and departments simply not knowing what the logistics function can provide (Nilsson, 2006). The lack of awareness can impact the firm through potential negative consequences such as increased costs or decreased customer satisfaction. One way to mitigate this lack of knowledge is to make logistics more salient throughout the firm.

Logistics salience is the importance or influence of logistics relative to other functions within a firm (Zacharia and Mentzer, 2004). Logistics salience is evident when other departments either value, or recognize that top management values, the capabilities logistics offers. Our research is aimed at extending understanding of logistics salience. First, building upon the foundation of Zacharia and Mentzer (2004, 2007), we examine the impact of logistics salience within an organization on two key capabilities: logistics innovativeness and logistics service differentiation. West (1990) defined innovativeness in a work environment as the expectation, approval, and practical support of attempts to introduce new and improved ways of doing things. Logistics innovativeness refers to the activities of logistics employees in seeking and implementing new ideas or processes. Differentiation is defined as creating a product and/or service bundle which is perceived to be unique and valuable to consumer needs (Devaraj et al.,



2004). Logistics service differentiation is the process of delivering unique logistics solutions which customers find valuable (Kemppainen and Vespalainen, 2007, van der Veeken and Rutten, 1998). Applying the constructs of innovativeness and service differentiation specifically to the context of logistics has the potential to significantly add to the body of knowledge in our discipline. Second, we examine the effects of each capability on logistics performance in response to Ray, Barney, and Muhanna's (2004) suggestion that operational level performance measures (instead of firm-wide performance) be used when dealing with operational capabilities.

Salancik and Pfeffer (1974) note organizational departments that provide the firm with more resources (do more for the firm) typically receive more firm resources in return (i.e. money, power, etc...). We propose that this is particularly relevant for a firm's logistics department. Logistics is undoubtedly a necessity for most types of businesses. Because of its ability to span multiple functions and boundaries of the organization, logistics is positioned to be a critical core function rather than a supporting function. Logistics is instrumental to coordinating and integrating supply chain activities that create both corporate and customer value (Closs et al., 2005, Greis and Kasarda, 1997). Thus, logistics salience represents a valuable firm resource. Considering logistics salience as a resource suggests two questions that guided the current research:

1) What impact does logistics salience have on logistics innovativeness and logistics service differentiation?

2) What is the relationship between logistics capabilities (specifically, logistics innovativeness and logistics service differentiation) and firm performance?

#### THEORETICAL FRAMEWORK



The resource based view (RBV) of the firm provides our theoretical foundation. RBV proposes that a firm's superior performance develops from its own resource based advantages over competitors (Barney, 1991, Sanders et al., 2011). Heterogeneous firm resources allow companies to develop specific capabilities, which can lead to superior performance (Hunt and Davis, 2012). Barney (1991) defines firm resources as assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies to improve efficiency and effectiveness. When firms possess a unique combination of resources, it can lead to the development of specific capabilities.

Capabilities are defined as unique bundles of resources resulting from the way in which a firm assembles, integrates, and deploys the resources (Defee and Fugate, 2010). Differentiated capabilities between firms reflect differences in resource allocation, corporate focus, and resource leverage (Closs and Xu, 2000). Capabilities represent the methods firms employ to affect performance. Creating superior capabilities can result in superior performance for a firm (Bharadwaj, 2000).

RBV links resources to capabilities and capabilities to performance. Firms which successfully utilize resources to develop capabilities have the potential to create a competitive advantage resulting in higher performance than if the resource–capability link was absent (Barney, 1991). In accordance with the RBV framework, we examine the relationship between logistics salience (resource) on the development of logistics innovativeness and logistics service differentiation (capabilities), and how these capabilities impact logistics performance (Figure 1).

**INSERT FIGURE 1 HERE** 



#### LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Logistics is frequently under-valued/unappreciated. In many firms, logistics is viewed internally as a cost center, not a strategic resource (Mentzer et al., 2004). Such a contention is supported by research conducted by Fugate et al. (2008) looking at the role of logistics within firms. The authors recounted how one of their interviewees told them "many traditional logistics activities are considered non-value added and tactical" at his company (p. 17). This type of mindset has potential negative effects for the logistics function and the firm.

Fortunately, there are companies that recognize the value logistics provides and view logistics as a source of competitive advantage (Fawcett et al., 1993). To ensure that logistics is utilized to its full extent and creates the most value for the firm, the function and its capabilities need to be recognized and leveraged (Williams et al., 2009). In other words, logistics needs to be "sold" or made salient throughout the organization (Zacharia and Mentzer, 2004). The intent should be to make others in the organization aware of the value that logistics generates (Zacharia and Mentzer, 2007). If logistics is viewed as salient, employees from other firm departments will have a greater understanding and appreciation for logistics' potential to assist in their day-to-day jobs. In this regard, logistics salience is an extension of a firm's shared knowledge or culture. Employees have a shared understanding of the relative importance of logistics activities to the firm, and hence a common resource from which to build or create additional firm value (Enz, 1988, Zacharia and Mentzer, 2004). Development of capabilities by exploiting the firm resource of logistics salience can expand the profile of logistics to become a key integrator of other internal coalitions within the firm (Mentzer et al., 2004). When logistics is viewed as



salient throughout the firm, the department is more apt to seek new capabilities, processes, or ideas (Flint et al., 2005).

Two capabilities are examined in our research. The first is logistics innovativeness. Innovativeness can be thought of as a process or capability to support innovation (West, 1990). Innovativeness is the underlying process which allows and encourages innovation (Das and Joshi, 2007). The concept can also be described as the extent to which a tendency to engage in and support new ideas, experimentation, and creative processes leads to new products, services, or processes (Das and Joshi, 2007, Lumpkin and Dess, 1996). In other words, innovativeness can promote organizational change.

Innovativeness has been investigated in various industries. Anderson and West (1998) examined innovativeness in hospitals in the British Health Care System. The authors found that support for innovation contributes to a larger concept of climate for innovation or fostering innovation. Zmud (1984) reviewed the idea of receptivity toward change or innovativeness of process innovations of software practices in 47 different software development groups. He concluded that innovativeness at the departmental level had more influence on an organization than upper management innovativeness. Within the context of working with internal customers, Hult (2002) investigated innovativeness' impact on sustained competitive advantages. The results supported innovativeness being positively associated with sustained competitive advantages. Our research extends previous research by specifically investigating logistics innovativeness. Logistics innovativeness allows logistics departments to devise new solutions to business problems and challenges (Hult et al., 2004).

While logistics innovation research has been discussed (Flint et al., 2008, Flint et al., 2005, Germain, 1996, Grawe, 2009, Grawe et al., 2011, Wagner, 2008, Wallenburg, 2009), the



concept of logistics innovativeness seems to be relatively unexplored in the literature. This is surprising due to the potential link between innovativeness and competitive advantage development as well as performance (Hult, 2002). Logistics innovativeness is a capability derived from various firm resources such as industry knowledge, technical expertise, or existing processes (Das and Joshi, 2007). It is our contention that another driver of logistics innovativeness is logistics salience. If recognized as being valuable contributors to firm success, logistics employees are more likely to seek new and varied processes. Thus, the following hypothesis is offered:

#### H1: Logistics salience is positively related to logistics innovativeness

Differentiation is the act of designing a set of meaningful differences to distinguish the company's offer from competitors' offers (Kotler et al., 1996). To be effective, differentiation must contribute to customer value by either providing benefits to the customer or lowering customer costs (Ulaga and Eggert, 2006). This often proves challenging; traditional differentiators such as product or price are less effective in markets where standardization and commoditization have become the norm (Vandenbosch and Dawar, 2002). In competitive markets where this is the case, the only choice may be to compete on service differentiation.

Service differentiation can include the ability to customize services to meet needs of individual customers. "In service organizations, the essence of a differentiation strategy will lie in creating services that are unique" (Das and Joshi, 2007, p. 647). Differentiation can be critical for non-service organizations as well. When products are difficult to distinguish from



competitors' offerings or when they can be easily copied by others, "managers may have little choice but to compete on service" (Stank et al., 1998, p. 78). This may also be true in the logistics area, if service offerings can easily be replicated.

Logistics service differentiation is defined as the process of delivering and providing unique logistics offerings which customers find valuable (Pirttilä and Huiskonen, 1996, van der Veeken and Rutten, 1998). Differentiation through logistics services allows customers to evaluate firms on factors beyond the physical product. In other words, it's not just about the product you can provide, but how you provide it. (Bowersox et al., 1995).

When logistics is valued or considered salient, firms will search for ways to strategically exploit logistics to gain advantage. Firms seek to identify and build capabilities which differentiate them from the competition (Day, 1994). Differentiating logistics services almost seems to be a customer mandate in the current business environment (Fugate et al., 2010). For example, logistics service differentiation can deliver customized logistics to customers (Wang and Lalwani, 2007) providing an edge over the competition (Daugherty et al., 2011). As such, logistics service differentiation represents a valuable firm capability. Thus, the following hypothesis is offered:

#### H2: Logistics salience is positively related with logistics service differentiation

In addition to the impact of logistics salience on two firm capabilities (logistics innovativeness and logistics service differentiation), the relationship between these two capabilities is also investigated in the current study. Previous research has used the RBV to



examine capability to capability linkages (Daugherty et al., 2009, Grant, 1996). While logistics capabilities can be developed in isolation, greater benefits are likely when the capabilities are pooled and can support one another (Kristal et al., 2010). Developing unique logistics capabilities often relies on the combined platform of existing and/or modified capabilities (Stank et al., 1994). Logistics innovativeness and the support for logistics service differentiation represents one such relationship. While logistics innovativeness and logistics service differentiation are related constructs, it is important to highlight a difference between the two. Logistics innovativeness represents the willingness and desire to seek new processes and services while logistics service differentiation refers to the actual creation and delivery of the new offerings. In a dynamic business environment, these two capabilities represent ways to respond to customers' changing needs and special requests (Teece et al., 1997).

The positive causal relationship between the two can be explained from an operational perspective (Daugherty et al., 2009). The creation of new logistics products or services (logistics service differentiation) is supported by the desire to create those new products or services (logistics innovativeness). In other words, logistics service differentiation might still occur, but is aided by logistics innovativeness. The need and willingness to meet new customer or market demands can be the impetus for providing new or differentiated logistics services (Hult, 2002). As such, the following hypothesis is offered:

#### H3 Logistics innovativeness is positively related to logistics service differentiation.

The relationship between capabilities and performance is a key tenet of the resource based view of the firm (Barney, 1991). As such, this link has been addressed by a number of



researchers examining various logistics capabilities and firm performance (Lynch et al., 2000, Morash et al., 1996, Vickery et al., 2003, Zhao et al., 2001). Our research focuses on the impact of logistics capabilities on logistics performance. This addresses the concern that research often focuses on departmental capabilities leading to overall firm performance and fails to consider the impact on the performance of the department responsible for the capabilities (Ray et al., 2004).

Examining the impact logistics innovativeness and logistics service differentiation have on logistics performance is a valuable exercise. While unique logistics capabilities have the potential to improve logistics performance (Knight and Cavusgil, 2004), each capability needs to be analyzed on its own merits. As capabilities are utilized to develop customized solutions for either external or internal customers (Grawe et al., 2009), the capabilities should be reviewed to ensure they are providing firms maximum benefit. We posit that logistics innovativeness and logistics service differentiation both positively impact logistics performance in today's business environment. The following hypotheses are offered:

## H4: Logistics innovativeness is positively related to logistics performanceH5: Logistics service differentiation is positively related to logistics performance

#### **RESEARCH METHODOLOGY**

#### Data collection

Dillman's (2000) approach to survey design and questionnaire administration was utilized. Multi-item reflective measures were adapted or developed as necessary to evaluate the selected constructs (Churchill Jr., 1979). A preliminary draft of the survey was reviewed by three supply chain management educators with relevant research experience and by two supply



chain executives – one at a retailer and one at a manufacturer. The experts evaluated the measures and the draft of the survey for representativeness, clarity, content validity, and face validity. After gathering their input, survey refinements were made based on the experts' opinions.

Data were collected utilizing the online survey panel Zoomerang. With the online panel, potential respondents are first classified by Zoomerang after answering numerous demographic, lifestyle, occupational, and geographic questions (Zoomerang.Com, 2012). This allows researchers the ability to select a specific panel of participants from a larger pool based on profile characteristics (i.e. geographic location and occupation) (Grawe et al., 2011). The respondent panel created through Zoomerang for this project consisted of executives from manufacturing and retail environments within distribution and supply chain functional areas. In addition to the survey questions described below, two additional questions were used to assess each potential panelist's ability to effectively complete the survey. The first was "the questions in this survey are relevant to our firm," and the second question was "I had enough information to answer all of the questions," (1 = Strongly Disagree, 4 = Neutral, and 7 = Strongly Agree). Responses of 4 or lower from each of the questions were dropped from the analysis. This step allowed the research team to further refine the sample as the intent of using Zoomerang was to identify business people with the necessary experience and knowledge to answer the provided survey.

The number of Zoomerang surveys returned was 600. From these surveys, 433 were eliminated based on the participant's lack of information or firm relevance. Twenty-six surveys were eliminated because the industry or job title did not fit the study. Five surveys were eliminated due to missing information. Thus, 136 surveys were used for the analysis. Table 1 provides demographic information on the respondents.



10

#### **INSERT TABLE 1 HERE**

#### Measurement item development

Seven-point likert-type scales were used for all scale items. All items were adapted from previous scales. Logistics salience measures were drawn from Zacharia and Mentzer (2004). Respondents were asked to indicate their level of agreement with statements regarding the existence and importance of the logistics function in their firms. Seven measurement items were used; the mean responses ranged from 5.06 to 5.44 (1 = Strongly Disagree, 4 = Neutral, and 7 = Strongly Agree), indicating slightly higher levels of logistics salience among the firms.

Logistics innovativeness was measured using items from Anderson and West (1998). Respondents were asked to indicate their level of agreement with statements regarding the level of logistics innovativeness within their firms. The means for the 5 items ranged from 4.81 to 5.10 (1 = Strongly Disagree, 4 = Neutral, and 7 = Strongly Agree), indicating moderate to slightly higher levels of logistics innovativeness among the firms.

Measures for service differentiation were drawn from Lynch, Keller, and Ozment (2000) and Song and Parry (1997). Respondents were asked to indicate their level of agreement with statements regarding their firms' service offerings. Four measurement items were used and the mean responses ranged from 4.70 to 4.93 (1 = Strongly Disagree, 4 = Neutral, and 7 = Strongly Agree), indicating moderate levels of service differentiation among firms.

Finally, logistics performance utilized a scale from Stank, Keller, and Daugherty (2001). Respondents were asked to indicate their firm's performance relative to industry competitors on



specific logistics performance measures. The means for the five measurement items ranged from 4.96 to 5.33 (1 = Significantly Worse, 7 = Significantly Better) indicating moderate to slightly higher levels of logistics performance among the firms.

#### Analysis

The researchers followed the two-step model analysis procedure as recommended by Gerbing and Anderson (1988). First, a measurement model was assessed with confirmatory factor analysis (CFA) using maximum likelihood estimation. Table 2 includes the measurement item questions, means, and standard deviations discussed in the previous section which also serve as the basis for the CFA analysis. After analyzing the measurement model, the theoretical model was tested. All statistical analyses were performed in SAS Version 9.2.

#### **INSERT TABLE 2 HERE**

#### Measurement model

When performing the CFA, the latent constructs of logistics salience, logistics innovativeness, logistics service differentiation, and logistics performance were allowed to covary with one another. The results of the CFA measurement model are presented in Table 3. The major fit indices examined to judge the appropriateness of the model include Chi-square  $(\chi^2)$ , Chi-square/degree of freedom ratio  $(\chi^2/df)$ , comparative fit index (CFI), and root mean square error of approximation (RMSEA). The  $\chi^2$  for the measurement model was 321.62 (df = 183, p < 0.001). The relative  $\chi^2/df$  value was 1.76 which falls between the recommended range of 1 and 3 (Iacobucci, 2010). The CFI is a goodness of fit measure that accounts for sample size



(Hatcher, 1994). CFI values fall between 0 and 1 with values closer to 1 indicating a better model fit of data (Iacobucci, 2010). The CFI value resulting from our analysis is 0.96 which is above 0.95 as recommended by Hu and Bentler (1999). The model produced an RMSEA of 0.075 which falls within the suggested range (< 0.08) indicating good model fit (Iacobucci, 2010). The critical fit indices suggest satisfactory fit between the data and the proposed model.

#### **INSERT TABLE 3 HERE**

Construct validity was also investigated when analyzing the measurement model. Validity refers to the degree which the measurement items selected reflect the construct they are intended to measure (Hair et al., 2006, Peter, 1979). Table 3 includes standardized weights for the measurement items of the latent constructs as well as reported t-values for these coefficients. Also included are indicator reliability measures for the items as well as composite reliability and average variance extracted (AVE) estimates for the latent constructs. The standardized factor loadings were all significant at the p < 0.001 level with values ranging from 0.84 to 0.95 indicating construct validity (Hair et al., 2006). The AVE estimate is a measure of the amount of variance captured by latent constructs relative to error variances (Fornell and Larcker, 1981, Hatcher, 1994). The lowest reported AVE was 0.79 which is above the recommended threshold of 0.50, again indicating construct validity (Fornell and Larcker, 1981). To establish discriminant validity of the constructs, the AVE measures of individual latent constructs were compared to the squared correlations among each pair of constructs (Hair et al., 2006). If the AVE measures are larger than the squared correlations between the constructs, one can conclude that discriminant validity exists between the constructs. The squared correlations are presented



in Table 4. The individual AVE measures were larger than the squared correlations for every pair of constructs. Based on the AVE comparison to squared inter-item correlations described above along with the face validity of the measurement items being distinct, we conclude discriminant validity between the latent constructs represented in our measurement model.

#### **INSERT TABLE 4 HERE**

Table 3 also reports the reliabilities of the measurement items which is simply the square of the standardized factor loadings along with the composite reliability of each construct. Hair et al. (2006) suggested that the reliabilities of measurement items should be 0.50 or higher indicating that more variance of the item is explained variance versus error variance. The reliabilities of our measures ranged from 0.71 to 0.90. Composite reliability is a measure of the internal consistency of a latent construct which is similar to coefficient alpha (Fornell and Larcker, 1981). In other words, reliability is generated by the items consistently providing the same results (Peter, 1979). The composite reliability values ranged from 0.94 to 0.96 -- all greater than the recommended cutoff of 0.70 indicating that each latent construct consistently measures what was intended (Nunnally and Bernstein, 1994). Based on the above results of the measurement model, the concepts of reliability and validity were generally supported.

#### RESULTS

#### Theoretical model

The theoretical model was tested using the CALIS procedure in SAS 9.2. The following goodness-of-fit indices indicate an acceptable fit of our data to the structural model: chi-square



= 336.59 (df = 184, p <. 001); chi-square/df = 1.83; CFI = 0.958; RMSEA = 0.078. All hypotheses were supported. Table 5 provides detailed analyses results.

#### INSERT TABLE 5 HERE

#### Mediation testing

To further test the structure of our proposed theoretical model, mediation testing was performed. The indirect effects of the mediated constructs in our model (i.e. logistics salience and logistics performance) were analyzed by performing a bootstrap analysis (Preacher and Hayes, 2004). Mediation testing by assessing indirect effects helps to confirm that a relationship between independent and dependent variables exists, but indicates that other variables must be present to fully explain the connection among the variables (Ellinger et al., 2010). The indirect effects of the constructs in our model were statistically significant at p < .001 and the generated 95% confidence interval around the indirect effects did not include zero. This indicates that indirect effects are present. Based on this analysis, we are confident that logistics innovativeness and logistics service differentiation mediate the relationship between logistics salience and logistics performance and that our model appropriately fits and explains the collected data.

#### DISCUSSION AND IMPLICATIONS

From a managerial perspective, the issue comes down to respect. Over 30 years ago, Heskett (1977) pointed out that "Logistics can spell the difference between success and failure in business" (p. 85). While it is tempting to say that logistics has subsequently taken its rightful position and gained the respect that it deserves, that is not always -- or maybe even usually -- the



case. Too often the value of logistics is not sold externally to customers or internally to top management and other functional areas. As Andraski and Novack (1996) noted, "logistics executives have done a poor job of marketing logistics within the organization" (p. 23). This statement is surprising because logistics salience is a firm resource that comes with little cost. Our findings should motivate logistics managers to highlight their operations internally. With the requisite resources <u>and</u> the mindset of what logistics can contribute, the resources can be targeted to building capabilities that will impact logistics performance. It can become a selffulfilling prophecy. Logistics salience represents the starting point for managers to create a cycle of success.

If logistics is viewed as salient or important, it will have more influence within the firm. Because of the recognition, logistics is likely to be given more resources. These resources not only impact logistics productivity and performance, they directly impact morale within the unit, influencing recruiting and hiring of personnel, and impact compensation levels. Recognition may be the ultimate key to making logistics careers more attractive and more rewarding in terms of satisfaction.

Logistics has long been recognized as a potential source of competitive advantage for firms (Bowersox et al., 2000). Unfortunately, that advantage is often more of an external advantage (customers value it) than an internal advantage. Our research has shown that logistics salience should be considered a distinct resource. Firms should promote the benefits of the logistics function internally and externally (Zacharia and Mentzer, 2007). Recognizing and promoting the existing contribution of logistics provides the impetus for a logistics department to develop additional logistics capabilities as well. Our research found that logistics salience can positively influence the development of logistics innovativeness and logistics service



differentiation. Logistics salience breeds a willingness to search for and establish new capabilities. Capability development and utilization provides benefits both internally and externally. Secondly, it is important to note the impact logistics innovativeness has on logistics service differentiation. The time period for sustaining a competitive advantage with new products, processes, or services has shortened due to competitor imitation practices as well as increased use of unexpected, unconventional, and often times instantaneous competitive reactions (Esper et al., 2007). This underscores the importance of firms developing the capability of logistics innovativeness. Logistics innovativeness, too, can act as a catalyst for logistics service differentiation. Because of their proactive attitude toward innovativeness, firms are positioned to develop new logistics processes or services in response to a competitor's new offering. The support for innovation provides a means to achieve further logistics competitive advantage.

#### LIMITATIONS AND FUTURE RESEARCH

Our findings are drawn from surveys completed by practitioners. Utilizing additional research methods would further substantiate the conclusions (Sanders and Wagner, 2011). Since surveys were completed by a single representative from each firm, there is a risk of common method variance. Common method variance is considered a threat to the validity of findings from survey research and represents error present by using a single respondent to answer all items of interest in a study (Podsakoff et al., 2003). To test if common method variance was present in the current study, the original structural model was compared to another model which matched the structural one, with the addition of a single unmeasured latent methods factor (Podsakoff et al., 2003). In the model containing the latent methods factor, the measurement items were loaded onto the constructs of interest from the study as well as the latent methods



factor. The results of this model were then compared to the original. In the latent methods factor model, the original item loadings and structural links remained significant. These findings indicate that while common methods variance may be present, it did not play a significant role in explaining the variance of the model. Thus, the findings generated from our study are considered to be valid (MacKenzie et al., 1993).

Logistics salience impacts two logistics capabilities that represent both the willingness and process of a firm's logistics department to develop new or innovative tools to better assist the customer. While the end result is a positive link with logistics performance, future research should investigate the link logistics salience has with a firm's supply chain agility. Supply chain agility is about responding to customers' needs while also successfully navigating turbulence in the competitive market (Swafford et al., 2006). The interplay of dynamic market changes with continuously meeting customer requirements may provide interesting implications regarding how logistics salience affects supply chain agility. Additionally, our research provides insights as to why logistics salience should be actively sought and leveraged. The potential rewards are worth the effort – potential to improve logistics performance due to a greater resource base, greater influence within the organization, increased status, and greater job satisfaction. How can this be accomplished? How do we get top management and other functional areas to value logistics? Future research could look at the most promising paths. For example, do you start by trying to get top management support? Respect can't be mandated, but top management can certainly influence opinions. Or is it more of a grassroots support issue? If your peers recognize the contribution that logistics is making (particularly within their specific domain) can you build upward from that? Case studies within organizations known for valuing logistics' contributions



would be a good starting point to greater understanding and identification of the critical success factors.

#### CONCLUSION

The current research revisited logistics salience and the construct's impact on logistics capability development and eventual performance implications. It is shown that logistics salience positively impacts logistics capabilities of logistics innovativeness and logistics service differentiation which both positively influence logistics performance. The results offer insights into what firms may need to stress as important in order to develop capabilities which can effectively impact performance.



#### References

- Anderson, N. R. and West, M. A. (1998), "Measuring Climate for Work Group Innovation: Development and Validation of the Team Climate Inventory", *Journal of Organizational Behavior*, Vol. 19 No. 3, pp 235-258.
- Andraski, J. C. and Novack, R. A. (1996), "Marketing Logistics Value: Managing the 5 P's", *Journal of Business Logistics*, Vol. 17 No. 1, pp 23-34.
- Barney, J. B. (1991), "Firm Resources and Sustained Competitive Advantage", *Journal of Management*, Vol. 17 No. 1, pp 99-120.
- Bharadwaj, A. S. (2000), "A Resource-Based Perspective on Information Technology Capability and Firm Performance: An Empirical Investigation", *MIS Quarterly*, Vol. 24 No. 1, pp 169-196.
- Bowersox, D. J., Mentzer, J. T. and Speh, T. W. (1995), "Logistics Leverage", *Journal of Business Strategies*, Vol. 12 Spring, pp 36-49.
- Bowersox, D. J., Closs, D. J. and Stank, T. P. (2000), "Ten-Mega Trends That Will Revolutionize Supply Chain Logistics", *Journal of Business Logistics*, Vol. 21 No. 2, pp 1-15.
- Churchill Jr., G. A. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs", *Journal of Marketing Research*, Vol. 16 No. 1, pp 64-73.
- Closs, D. J. and Xu, K. (2000), "Logistics Information Technology Practice in Manufacturing and Merchandising Firms–An International Benchmarking Study Versus World Class Logistics Firms", *International Journal of Physical Distribution and Logistics Management*, Vol. 30 No. 10, pp 869-886.
- Closs, D. J., Swink, M. and Nair, A. (2005), "The Role of Information Connectivity in Making Flexible Logistics Programs Successful", *International Journal of Physical Distribution and Logistics Management*, Vol. 35 No. 4, pp 258-277.
- Das, S. R. and Joshi, M. P. (2007), "Process Innovativeness in Technology Services Organizations: Roles of Differentiation Strategy, Operational Autonomy and Risk-Taking Propensity", *Journal of Operations Management*, Vol. 25 No. 3, pp 643-660.
- Daugherty, P. J., Chen, H., Mattioda, D. D. and Grawe, S. J. (2009), "Marketing/Logistics Relationships: Influence on Capabilities and Performance", *Journal of Business Logistics*, Vol. 30 No. 1, pp 1-18.
- Daugherty, P. J., Chen, H. and Ferrin, B. G. (2011), "Organizational Structure and Logistics Service Innovation", *International Journal of Logistics Management*, Vol. 22 No. 1, pp 26-51.
- Day, G. S. (1994), "The Capabilities of Market-Driven Organizations", *Journal of Marketing*, Vol. 58 No. 4, pp 37-52.
- Defee, C. C. and Fugate, B. (2010), "Changing Perspective of Capabilities in the Dynamic Supply Chain Era", *International Journal of Logistics Management*, Vol. 21 No. 2, pp 180-206.
- Devaraj, S., Hollingworth, D. G. and Schroeder, R. G. (2004), "Generic Manufacturing Strategies and Plant Performance", *Journal of Operations Management*, Vol. 22 No. 3, pp 313-333.
- Dillman, D. A. (2000), *Mail and Web Based Survey: The Tailored Design Method.*, Wiley, New York.



- Ellinger, A. E., Keller, S. B. and Elmadağ Baş, A. B. (2010), "The Empowerment of Frontline Service Staff in 3PL Companies", *Journal of Business Logistics*, Vol. 31 No. 1, pp 79-98.
- Enz, C. A. (1988), "The Role of Value Congruity in Intraorganizational Power", *Administrative Science Quarterly*, Vol. 33 No. 2, pp 284-304.
- Esper, T. L., Fugate, B. S. and Davis-Sramek, B. (2007), "Logistics Learning Capability: Sustaining the Competitive Advantage Gained Through Logistics Leverage", *Journal of Business Logistics*, Vol. 28 No. 2, pp 57-82.
- Fawcett, S. E., Birou, L. and Cofield-Taylor, B. (1993), "Supporting Global Operations through Logistics and Purchasing", *International Journal of Physical Distribution and Logistics Management*, Vol. 23 No. 4, pp 3-11.
- Flint, D. J., Larsson, E., Gammelgaard, B. and Mentzer, J. T. (2005), "Logistics Innovation: A Customer Value-Oriented Social Process", *Journal of Business Logistics*, Vol. 26 No. 1, pp 113-147.
- Flint, D. J., Larsson, E. and Gammelgaard, B. (2008), "Exploring Processes for Customer Value Insights, Supply Chain Learning and Innovation: An International Study", *Journal of Business Logistics*, Vol. 29 No. 1, pp 257-281.
- Fornell, C. and Larcker, D. F. (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, Vol. 18 No. 1, pp 39-50.
- Fugate, B. S., Flint, D. J. and Mentzer, J. T. (2008), "The Role of Logistics in Market Orientation", *Journal of Business Logistics*, Vol. 29 No. 2, pp 1-26.
- Fugate, B. S., Mentzer, J. T. and Stank, T. P. (2010), "Logistics Performance: Efficiency, Effectiveness, and Differentiation", *Journal of Business Logistics*, Vol. 31 No. 1, pp 43-62.
- Gerbing, D. W. and Anderson, J. C. (1988), "An Updated Paradigm for Scale Development Incorporating Unidimensionality and its Assessment", *Journal of Marketing Research*, Vol. 25 No. 2, pp 186-192.
- Germain, R. (1996), "The Role of Context and Structure in Radical and Incremental Logistics Innovation Adoption", *Journal of Business Research*, Vol. 35 No. 2, pp 117-127.
- Grant, R. M. (1996), "Prospering in Dynamically-Competitive Environments: Organizational Capability as Knowledge Integration", Organization Science, Vol. 7 No. 4, pp 375-387.
- Grawe, S. J. (2009), "Logistics Innovation: A Literature-Based Conceptual Framework", *International Journal of Logistics Management*, Vol. 20 No. 3, pp 360-377.
- Grawe, S. J., Chen, H. and Daugherty, P. J. (2009), "The Relationship Between Strategic Orientation, Service Innovation, and Performance", *International Journal of Physical Distribution and Logistics Management*, Vol. 39 No. 4, pp 282-300.
- Grawe, S. J., Daugherty, P. J. and Roath, A. S. (2011), "Knowledge Synthesis and Innovative Logistics Processes: Enhancing Operational Flexibility and Performance", *Journal of Business Logistics*, Vol. 32 No. 1, pp 69-80.
- Greis, N. P. and Kasarda, J. D. (1997), "Enterprise Logistics in the Information Era", *California Management Review*, Vol. 39, pp 55-78.
- Hair, J. F. J., Black, B., Babin, B., Anderson, R. E. and Tatham, R. L. (2006), *Multivariate Data Analysis*, MacMillan Publishing Co., New York.
- Hatcher, L. (1994), A Step-by-Step Approach to Using SAS for Factor Analysis and Structural Equation Modeling, SAS Publishing, Cary, NC.



- Heskett, J. L. (1977), "Logistics-Essential to Strategy", *Harvard Business Review*, Vol. 55 No. 6, pp 85-96.
- Hu, L.-T. and Bentler, P. (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria verus New Alternatives", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 6 No. 1, pp 1-55.
- Hult, G. T. M. (2002), "Cultural Competitiveness in Global Sourcing", *Industrial Marketing Management*, Vol. 31 No. 1, pp 25-34.
- Hult, G. T. M., Hurley, R. F. and Knight, G. A. (2004), "Innovativeness: Its Antecedents and Impact on Business Performance", *Industrial Marketing Management*, Vol. 33 No. 5, pp 429-438.
- Hunt, S. D. and Davis, D. F. (2012), "Grounding Supply Chain Management in Resource-Advantage Theory: In Defense of a Resource-Based View of the Firm", *Journal of Supply Chain Management*, Vol. 48 No. 2, pp 14-20.
- Iacobucci, D. (2010), "Structural Equations Modeling: Fit Indices, Sample Size, and Advanced Topics", *Journal of Consumer Psychology*, Vol. 20 No. 1, pp 90-98.
- Kemppainen, K. and Vespalainen, A. P. J. (2007), "Logistical and Technological Differentiation as a Precondition of Supply Networking", *International Journal of Logistics Management*, Vol. 18 No. 1, pp 81-101.
- Knight, G. A. and Cavusgil, S. T. (2004), "Innovation, Organizational Capabilities, and the Born-Global firm", *Journal of International Business Studies*, Vol. 35 No. 2, pp 124-141.
- Kotler, P., Ang, S. H., Leong, S. M. and Tan, C. T. (1996), *Marketing Management: An Asian Perspective*, Prentice Hall, Singapore.
- Kristal, M. M., Huang, X. and Roth, A. V. (2010), "The Effect of an Ambidextrous Supply Chain Strategy on Combinative Competitive Capabilities and Business Performance", *Journal of Operations Management*, Vol. 28 No. 5, pp 415-429.
- Lumpkin, G. T. and Dess, G. G. (1996), "Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance", *The Academy of Management Review*, Vol. 21 No. 1, pp 135-172.
- Lynch, D. F., Keller, S. B. and Ozment, J. (2000), "The Effects of Logistics Capabilities and Strategy on Firm Performance", *Journal of Business Logistics*, Vol. 21 No. 2, pp 47-67.
- Mackenzie, S. B., Podsakoff, P. M. and Fetter, R. (1993), "The Impact of Organizational Citizenship Behavior on Evaluations of Salesperson Performance", *Journal of Marketing*, Vol. 57 No. 1, pp 70-80.
- Mentzer, J. T., Flint, D. J. and Hult, G. T. M. (2001), "Logistics Service Quality as a Segment-Customized Process", *Journal of Marketing*, Vol. 65 No. 4, pp 82-104.
- Mentzer, J. T., Min, S. and Bobbitt, L. M. (2004), "Toward a Unified Theory of Logistics", *International Journal of Physical Distribution and Logistics Management*, Vol. 34 No. 8, pp 606-627.
- Morash, E. A., Droge, C. L. M. and Vickery, S. K. (1996), "Strategic Logistics Capabilities for Competitive Advantage and Firm Success", *Journal of Business Logistics*, Vol. 17 No. 1, pp 1-22.

Nilsson, F. (2006), "Logistics Management in Practice–Towards Theories of Complex Logistics", *International Journal of Logistics Management*, Vol. 17 No. 1, pp 38-54.

Nunnally, J. C. and Bernstein, I. H. (1994), *Psychometric Theory*, McGraw-Hill, New York.



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- Peter, J. P. (1979), "Reliability: A Review of Psychometric Basics and Recent Marketing Practices", *Journal of Marketing Research*, Vol. 16 No. 1, pp 6-17.
- Pirttilä, T. and Huiskonen, J. (1996), "A Framework for Cost-Service Analysis in Differentiation of Logistics Services", *International Journal of Production Economics*, Vol. 45 No. 1-3, pp 131-137.
- Podsakoff, P. M., Mackenzie, S. B., Lee, J.-Y. and Podsakoff, N. P. (2003), "Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp 879-903.
- Preacher, K. J. and Hayes, A. F. (2004), "SPSS and SAS Procedures for Estimating Indirect Effects in Simple Mediation Models", *Behavior Research Methods, Instruments, and Computers,* Vol. 36 No. 4, pp 717-731.
- Ray, G., Barney, J. B. and Muhanna, W. A. (2004), "Capabilities, Business Processes, and Competitive Advantage: Choosing the Dependent Variable in Empirical Tests of the Resource-Based View", *Strategic Management Journal*, Vol. 25 No. 1, pp 23-37.
- Salancik, G. R. and Pfeffer, J. (1974), "The Bases and Use of Power in Organizational Decision Making: The Case of a University", *Administrative Science Quarterly*, Vol. 19 No. 4, pp 453-473.
- Sanders, N. R., Autry, C. W. and Gilgor, D. M. (2011), "The Impact of Buyer Firm Information Connectivity Enablers on Supplier Firm Performance: A Relational View", *International Journal of Logistics Management*, Vol. 22 No. 2, pp 179-201.
- Sanders, N. R. and Wagner, S. M. (2011), "Multidisciplinary and Multimethod Research for Addressing Contemporary Supply Chain Challenges", *Journal of Business Logistics*, Vol. 32 No. 4, pp 317-323.
- Song, X. M. and Parry, M. E. (1997), "A Cross-National Comparative Study of New Product Development Processes: Japan and the United States", *Journal of Marketing*, Vol. 61 No. 2, pp 1-18.
- Stank, T. P., Daugherty, P. J. and Gustin, C. M. (1994), "Organizational Structure: Influence on Logistics Integration, Costs, and Information System Performance", *International Journal of Logistics Management*, Vol. 5 No. 2, pp 41-52.
- Stank, T. P., Daugherty, P. J. and Ellinger, A. E. (1998), "Pulling Customers Closer through Logistics Service", *Business Horizons*, Vol. 41 No. 5, pp 74-80.
- Stank, T. P., Keller, S. B. and Daugherty, P. J. (2001), "Supply Chain Collaboration and Logistical Service Performance", *Journal of Business Logistics*, Vol. 22 No. 1, pp 29-48.
- Swafford, P. M., Ghosh, S. and Murthy, N. (2006), "The Antecedents of Supply Chain Agility of a Firm: Scale Development and Model Testing", *Journal of Operations Management*, Vol. 24 No. 2, pp 170-188.
- Teece, D. J., Pisano, G. and Shuen, A. (1997), "Dynamic Capabilities and Strategic Management", *Strategic Management Journal*, Vol. 18 No. 7, pp 509-533.
- Ulaga, W. and Eggert, A. (2006), "Value-Based Differentiation in Business Relationships: Gaining and Sustaining Key Supplier Status", *Journal of Marketing*, Vol. 70 No. 1, pp 119-136.
- van der Veeken, D. J. M. and Rutten, W. G. M. M. (1998), "Logistics Service Management: Opportunities for Differentiation", *International Journal of Logistics Management*, Vol. 9 No. 2, pp 91-98.
- Vandenbosch, M. and Dawar, N. (2002), "Beyond Better Products: Capturing Value in Customer Interactions", *MIT Sloan Management Review*, Vol. 43 No. 4, pp 35-42.



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- Vickery, S. K., Jayaram, J., Droge, C. and Calantone, R. (2003), "The Effects of an Integrative Supply Chain Strategy on Customer Service and Financial Performance: An Analysis of Direct Versus Indirect Relationships", *Journal of Operations Management*, Vol. 21 No. 5, pp 523-539.
- Wagner, S. M. (2008), "Innovation Management in the German Transportation Industry", *Journal of Business Logistics*, Vol. 29 No. 2, pp 215-231.
- Wallenburg, C. M. (2009), "Innovation in Logistics Outsourcing Relationships: Proactive Improvement by Logistics Service Providers as a Driver of Customer Loyalty", *Journal* of Supply Chain Management, Vol. 45 No. 2, pp 75-93.
- Wang, Y. and Lalwani, C. S. (2007), "Using E-Business to Enable Customised Logistics Sustainability", *International Journal of Logistics Management*, Vol. 18 No. 3, pp 402-419.
- West, M. A. (1990), The Social Psychology of Innovation in Groups, in *Innovation and Creativity at Work: Psychological and Organizational Strategies*, ed., Farr, Oxford, England: John Wiley & Sons, pp. 309-333.
- Williams, Z., Ponder, N. and Autry, C. W. (2009), "Supply Chain Security Culture: Measure Development and Validation", *International Journal of Logistics Management*, Vol. 20 No. 2, pp 243-260.
- Zacharia, Z. G. and Mentzer, J. T. (2004), "Logistics Salience in a Changing Environment", *Journal of Business Logistics*, Vol. 25 No. 1, pp 187-210.
- Zacharia, Z. G. and Mentzer, J. T. (2007), "The Role of Logistics in New Product Development", *Journal of Business Logistics*, Vol. 28 No. 1, pp 83-110.
- Zhao, M., Dröge, C. and Stank, T. P. (2001), "The Effects of Logistics Capabilities on Firm Performance: Customer-Focused Versus Information-Focused Capabilities", *Journal of Business Logistics*, Vol. 22 No. 2, pp 91-107.
- Zmud, R. W. (1984), "An Examination of "Push-Pull" Theory Applied to Process Innovation in Knowledge Work", *Management Science*, Vol. 30 No. 6, pp 727-738.
- Zoomerang, 2012, "Zoomerang," [online; cited 7/25/12]. Available from: http://www.zoomerang.com/Sample-Size/sample-faqs.shtml







Job Position	# <b>(%</b> )
Executive	15 (11)
President	10 (7)
Vice President	7 (5)
Director	17 (13)
Manager	87 (64)
Total	136 (100)
Industry	
Manufacturing	49 (36)
Manufacturing Retail	49 (36) 34 (25)
Manufacturing Retail Food/Grocery	49 (36) 34 (25) 24 (18)
Manufacturing Retail Food/Grocery IT	49 (36) 34 (25) 24 (18) 22 (16)
Manufacturing Retail Food/Grocery IT Personal Care	49 (36) 34 (25) 24 (18) 22 (16) 7 (5)

Table 1: Survey respondent demographics



#### Table 2: Constructs and scale items

Constru	acts and scale items	Mean	SD
	Logistics Salience (adapted from Zacharia & Mentzer 2004)		
	Please indicate your level of agreement with the following statements (1 = Strongly Disagree, 7 =		
	Strongly Agree) about logistics at your company		
SAL1	Our logistics department is recognized as important within the firm	5.16	1.58
SAL2	Our logistics department is visible within the firm	5.06	1.60
SAL3	Our logistics department has access to top management	5.44	1.55
SAL4	Our logistics department contributes in terms of providing a cost advantage	5.11	1.45
SAL5	Our logistics department contributes in terms of providing a service advantage	5.24	1.51
SAL6	Our logistics department contributes in terms of providing a competitive advantage	5.12	1.56
SAL7	Our logistics department contributes in terms of providing a profitability advantage	5.13	1.52
	Logistics Innovativeness (adapted from Anderson & West 1998)		
	Please indicate your level of agreement with the following statements (1 = Strongly Disagree, 7 =		
	Strongly Agree) about logistics at your company		
LI1	Our logistics employees are open and responsive to change	5.04	1.50
LI2	Our logistics employees take the time needed to develop new ideas	4.81	1.58
LI3	Our logistics employees co-operate in order to help develop and apply new ideas	5.10	1.58
LI4	Our logistics employees provide and share resources to help in the implementation of new ideas	5.04	1.55
LI5	Our logistics employees provide practical support for ideas and their application	4.99	1.53
	Logistics Service Differentiation (adapted from Lynch, Keller, & Ozment 2000; Song & Parry 1	.997)	
	Please indicate your level of agreement with the following statements (1 = Strongly Disagree, 7 =		
	Strongly Agree) about your company's logistics services		
DIFF1	Our logistics services are highly differentiated	4.70	1.55
DIFF2	Compared to competiting firms, our distribution services offer unique features or attributes to the		
	customer	4.93	1.60
DIFF3	Our logistics services are customized to meet the needs of our business partners	4.90	1.63
DIFF4	Our logistics services allow our business partners to do something that they could not do with other firms	4.80	1.65
	Logistics Performance (adapted from Stank, Keller, & Daugherty 2001)		
	Please indicate your firm's performance against industry competitors (1 = Significantly Worse, 7 =		
	Significantly Better) in the following areas		
PER1	The ability to achieve the lowest possible cost of logistics through efficient operations, technology, and/or		
	scale economies	4.96	1.55
PER2	The ability to reduce the time between order receipt and customer delivery to as close to zero as		
	possible	5.23	1.55
PER3	The ability to meet quoted or anticipated delivery dates and quantities on a consistent basis	5.19	1.50
PER4	The ability to provide desired quantities on a consistent basis	5.33	1.47
PER5	The extent to which perceived logistics performance matches customer expectations	5.23	1.39



Table 3: The measurement model

Standardized				
<b>Constructs and indicators</b>	weight	t-Value	Reliability	extracted
Logistics Salience			0.96	0.79
SAL1 < Logistics Salience	0.85	38.13	0.72	
SAL2 < Logistics Salience	0.88	36.88	0.77	
SAL3 < Logistics Salience	0.84	40.90	0.71	
SAL4 < Logistics Salience	0.92	41.17	0.84	
SAL5 < Logistics Salience	0.91	40.54	0.83	
SAL6 < Logistics Salience	0.93	38.27	0.86	
SAL7 < Logistics Salience	0.91	39.39	0.82	
Logistics Innovativeness			0.96	0.82
LI1 < Logistics Innovativeness	0.84	39.13	0.71	
LI2 < Logistics Innovativeness	0.86	35.51	0.74	
LI3 < Logistics Innovativeness	0.93	36.73	0.86	
LI4 < Logistics Innovativeness	0.95	37.95	0.90	
LI5 < Logistics Innovativeness	0.95	37.94	0.90	
Logistics Service Differentiation			0.94	0.81
DIFF1 < Logistics Service Differentiation	0.85	35.34	0.72	
DIFF2 < Logistics Service Differentiation	0.92	35.98	0.85	
DIFF3 < Logistics Service Differentiation	0.89	34.98	0.79	
DIFF4 < Logistics Service Differentiation	0.93	33.87	0.86	
Logistics Performance			0.96	0.83
PER1 < Logistics Performance	0.84	37.32	0.71	
PER2 < Logistics Performance	0.91	39.56	0.83	
PER3 < Logistics Performance	0.93	40.38	0.86	
PER4 < Logistics Performance	0.94	42.40	0.88	
PER5 < Logistics Performance	0.93	43.37	0.86	



Table 4: Tests for discriminant validity

	Average variance	Logistics	Logistics	Logistics Service	Logistics
Variance extracted test	extracted	Salience	Innovativeness	Differentiation	Performance
Logistics Salience	0.79				
Logistics Innovativeness	0.82	0.57			
Logistics Service Differentiation	0.81	0.63	0.54		
Logistics Performance	0.83	0.70	0.59	0.74	



Table 5: Path model results

	Standardized			
Path	Weight	t-Value	p-Value	Note
H1: Logistics Salience> Logistics Innovativeness	0.76	21.20	<.001	supported
H2: Logistics Salience> Logistics Service Differentiation	0.67	7.21	<.001	supported
H3: Logistics Innovativeness> Logistics Service Differentiation	0.35	3.34	<.001	supported
H4: Logistics Innovativeness> Logistics Performance	0.29	4.30	<.001	supported
H5: Logistics Service Differentiation> Logistics Performance	0.57	10.00	<.001	supported

Notes: Squared correlations ( $R^2$ ) in the structural model: logistics innovativeness = .57; logistics service differentiation = .69; logistics performance = .79.

