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DEVELOPING REVERSE LOGISTICS PROGRAMS: A RESOURCE BASED VIEW

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ABSTRACT

Previous research proposes a six-process model for reverse logistics (RL) program design and execution. This manuscript advances RL related knowledge by incorporating the previous model into a broader theoretical framework, namely, the Resource Based View (RBV) of the firm. The current research employs exploratory techniques to investigate the applicability of RBV and its main tenants within the RL context. Based on in-depth interviews with 16 executives from seven different companies, the relationships among resources, RL capabilities, and RL competencies are explored.

INTRODUCTION

Delivering product to the customer does not always end the business cycle. Products are often returned and must be reclaimed from downstream trading partners. Historically, the sheer volume of returns has been staggering. For example, in the magazine publishing industry, half of all products are returned, and return figures of 30% are not unusual in the book publishing, greeting cards, and retail catalog industries (Rogers and Tibben-Lembke, 1999). More recent examples are almost as extreme. L.L. Bean reports that out of 48 million products shipped out to customers, 6 million were returned (Bodenburg, 2007).

Return rates of 11 to 20% are reported in the consumer electronics industry (Arar, 2008). Recalls of products as disparate as toothpaste, pet food, laptop batteries, spinach, and contact lens solution are becoming everyday news (Kator, 2007).

Returns negatively impact the bottom line. Across all industries, returns can reduce profits by as much as 30 to 35% (Rodriguez, 2007). Lost sales, transportation, handling, processing, and disposal expenses directly attributable to returns are estimated at $100 billion per year (Blanchard 2009). Added to the actual costs of handling returns are mounting pressures from different government entities and the society as a whole toward environmentally-friendly, "green" organizational practices. Rodriguez (2008) illustrates the strategic role of reverse logistics (RL) under the growing corporate ecological responsibility drive:

> As companies launch new environmental initiatives to mitigate their impact on the world's climate, they are finding that mishandling reverse logistics may leave them open to fines from regulatory agencies, and to a potentially negative reaction from customers that could affect future business. (p. 4)

Hence, designing efficient and effective reverse logistics (RL) is critical, and substantial resource commitments may be required to ensure organizational competitiveness and survival in the long run (Jayaraman and Luo, 2007).

A Resource-Based View (RBV) of firm competencies (see Barney, 1991; Wernerfelt, 1984), suggests that focused resource commitments are associated with successful organizational performance outcomes. At the same time, insufficient resource commitment to reverse logistics is cited as one of the biggest problems in developing successful returns programs (Walsh, 2006). Moreover, as managers of reverse logistics programs are well aware, resource commitments alone do not guarantee success. Indeed, critics claim that attributing success to the allocation of resources is too often made retroactively, i.e. *after* the investments have proven worthwhile. A better understanding of *how* resource commitments translate into performance outcomes seems important to both theory and practice. Framed differently, it is vital to understand how reverse logistics capabilities arise. It is argued that only *in combination* with the development of processes will dedicated resources result in maximizing reverse logistics performance. Processes can be used to form a reverse logistics competency that enhances the resources' contribution to the creation of reverse logistics capabilities.

The current research utilizes case studies to explore the relationships among resources, competencies, and capabilities applied in the context of RL operations. RL program development and implementation has not been incorporated into a broader theoretical perspective (such as RBV). The framework introduced represents our attempt to address this gap.

The manuscript begins with a literature review that is presented to help convey the theoretical grounding of the study's qualitative insights. The second section then focuses on the method of collecting qualitative information. Third, a conceptual framework is presented illustrating the relationship between resource commitments, reverse logistics processes, and the reverse logistics capabilities of firms. Finally, implications for practitioners and academics are discussed, and future research directions are suggested.

BACKGROUND

Overview of Reverse Logistics

Reverse logistics is often defined as a set of operational processes aimed at "... planning, implementing and controlling the efficient, cost-effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing or creating value or for proper disposal" (Rogers and Tibben-Lembke, 1999). The focus of the current research is first, to provide a better understanding of what is involved in these processes and second, to explain their role in the overall reverse logistics program development and implementation. Operational processes are "structured sets of work activity that lead to specified business outcomes for customers and the firm" (Davenport and Beers, 1995). A process approach is necessary in order to fully understand and manage the complex activities and interactions involved in returns management (Cooper and Stephan, 1994). Rogers et al. (2002) identified the following processes involved in returns management: return initiation, determining routing, receiving returns, selecting disposition, crediting customers, and measuring performance. The processes actually encompass more than reverse logistics activities as they extend to the activities associated with gatekeeping and avoidance, i.e., taking steps to eliminate or minimize the causes of returns.

While both forward and reverse logistics involve handling the physical flow of goods and services, substantial differences exist. Stock and Lambert (2001) note that "most logistics systems are ill equipped to handle product movement in a reverse channel." The differences in resources, the processes involved, and the capabilities needed for handling returns, can influence logistics strategy and operations. Previous academic studies

recognize the unique nature of RL and have focused on the collection of used products, their pricing, after-market use through resale and/or re-manufacturing, and recycling options including "green" and conservation initiatives (Pokharel and Mutha, 2009; Stock, 1992). At the same time, these authors acknowledge that little theory-based research has been conducted providing a more holistic view of reverse logistics and its impact on firms' overall performance.

METHODOLOGY

Qualitative research is often used to gain understanding of how specific theoretical perspectives (such as RBV) can be applied in a particular context (Yin, 2003). The current research utilizes the qualitative method of scientific discovery to explore the relationships among resources, competencies/processes, and capabilities within the specific context of RL.

Theory describing RL is less mature than logistics and supply chain management conceptualizations (Dowlatshahi, 2000). Thus, a purposive sampling was applied in selecting the cases of interest (Davis and Mentzer, 2006). Due to the specific nature of reverse logistics within the broader context of firms' supply chain operations, efforts were made to select participants at two levels in each company: 1) Senior supply chain/logistics executives with knowledge of the role and place of RL within the company, and 2) RL operations executives, responsible for day-to-day RL program development and implementation. After identifying the main criteria for inclusion, the next step was to develop a list of potential candidates. A referral system (Davis and Mentzer, 2006),

TABLE 1
FIRMS' CHARACTERISTICS*

Firm	Industry	Participant's Titles
I.**	3PL – Retail Business Solutions	**A**, Vice President
II.	Dedicated Returns Center for Computers and Peripherals	**B**, GM Global Operations **C**, Distribution Manager
III.	Catalog/Brick and Mortar Retailer for Furniture and Apparel	**D**, VP of Distribution **E**, Inbound Manager **F**, Returns Supervisor
IV.	Consumer Electronics	**G**, Director, Returns Management
V.	Manufacturer of Self-Service Technology and Equipment	**H**, Manager, Distribution Operations **I**, Area Logistics Manager **J**, Logistics Analyst
VI.	3PL – Cross-industry Logistics Service Provider	**K**, Executive VP, Business Development **L**, Manager, Customer Performance Team **M**, Warehouse Manager
VII.	Wholesale Distributor of Technology Products	**N**, Logistics Center Director **O**, Returns Manager **P**, Logistics Supervisor

* Adapted from Flint, Woodruff, and Gardial (2002)
** Due to guarantees of anonymity, participants were not identified by company affiliation.

where three experts in the field of RL, two from industry and one academic, was used to identify companies with extensive returns management involvement. The sampling process was constrained by limitations regarding geography and time; only companies within a day's driving distance from the researchers' location were included. A convenience sampling is considered acceptable with a case study approach (Pagell, 2004). The final sample consisted of 16 participants from seven different companies. The sampling process was deemed completed when theoretical saturation was reached. In addition, the number of interviews conducted exceeds the minimum number (8) established as a guideline in qualitative research (Davis-Sramek and Fugate, 2007). The participants were initially approached through expert referrals and provided with solicitation letters following the guidelines of Yin (2003). The initial contact subsequently identified other(s) within the firm that also had knowledge about the RL program. Industry affiliation and job positions of the participants are provided in Table 1.

According to Yin (2003), the "unique tools" of case study research, compared to other research methods, are direct observation and personal interviews. Depth interviews were employed utilizing a semi-structured interview technique. This allows the interviewer discretion to follow leads while still insuring questions and topics are covered in roughly the same order. Semi-structured interviews yield more reliable and comparable qualitative data than do unstructured or informal interviews (Bernard, 1994). Sequence of analysis (Spiggle, 1994) was employed as a means of interpreting and organizing the results. This particular method allows for use of *a priori* categorizations, based on the literature, as well as emerging themes, and then allows exploration of the themes' interrelationships. The Interview Guide is included in Appendix 1.

TABLE 2
TRUSTWORTHINESS OF STUDY AND FINDINGS*

Trustworthiness Criteria	Method of Addressing in this Study
Credibility (Extent to which the results appear to be acceptible representations of data)	- 12 months conducting interviews- two independent coders analyzed the codes and the transcripts - 1-page summary was provided to three of the participants for feedback- the initial framework was altered and expanded
Confirmability(Extent to which interpretations are the result of participants' information and the phenomenon as opposed to researcher bias)	- More than 100 pages of transcripts were independently analyzed by a co- researcher - Summary of preliminary findings to three other team members who acted as auditors - Interpretations were expanded and refined
Control (Extent to which organizations can influence aspects of theory)	- Participants do have control over securing adequate resources, developing RL-related capabilities, and enhancing their RL competencies - Participants can influence our framework
Transferability (Extent to which findings from one study in one context will apply to other contexts)	- The sample reflected a high degree of diversity in terms of industry and participant involvement - Theoretical concepts were represented by data from all participants

* Adapted from Flint, Woodruff, and Gardial (2002)

Interviews were audio taped. In each instance, initial impressions and notes from the visits were immediately shared with another researcher. The audiotapes were professionally transcribed and verbatim scripts provided to the research team. Data were qualitatively analyzed by two more academics not directly involved with the project ensuring increased trustworthiness of findings. Table 2 illustrates specific criteria associated with the reliability of the qualitative research.

RBV REVERSE LOGISTICS FRAMEWORK AND PROPOSITIONS

In its most generic form, the RBV argues that a firm's resources can be a potential source of competitive advantage (Barney, 1991) leading to differentiated performance outcomes (Aaker, 1989; Day and Wensley, 1988) and above normal economic rents (Rumelt, 1987). Firm resources, however, must be organized and carefully managed. Competency in developing, combining, and deploying resources is necessary for achieving better performance (Teece, Pisano, and Shuen, 1997). Thus, qualitative analyses focused on identification of both resources and processes which in combination appeared to bolster performance. The next section describes several types of resource commitments that appeared across interviews to be related to RL and firm performance.

Resource Commitments

Barney (1991) includes, "all assets ... controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness," as organizational resources. Guidance is needed, however, on how to best categorize resources—to help direct managerial thinking about critical inputs into RL capabilities. The data allowed for ready assignment of resources into hard (e.g., returns facilities, salvage stores, factory outlets, warehouse equipment, software and hardware systems, refurbishing equipment, etc.) or soft (e.g., managerial and employee skill with handling returns, technological expertise, vendor relationships) categories. However, review of Miller and Shamsie's work (1996) suggested a better categorization. Two resource classifications appeared to be particularly germane to RL: 1) knowledge-based resources and 2) property-based resources.

The researchers have selected quotes from the interviews that provide support for our proposed reverse logistics framework. The following quotes relate to resource commitment.

> *Our (reverse logistics system) must involve the right returns authorization personnel - they are responsible to record the right information, credit the right account with the right amount, be able to codify the reasons for returns, and also has to be able to identify trends in the returns.*
>
> VP of Distribution, Catalog Retailer Company

> *They (salespeople) also work with our planning people, because they are going to say, 'this is how much money we get for this contract, this is how much returns will cost.*
>
> Returns Manager, Wholesale Distribution Company

Knowledge-based resources include the firm's know-how and skills—i.e., its technological, managerial, and human resources. Knowledge-based resources are difficult to transfer or imitate, at least in the short run, due to firm-specific paths of developing and/or acquiring know-how, skills, and experience among employees (Amit and Schoemaker, 1993; Barney, 1991). Knowledge-based resources are viewed as critical as illustrated in the following quote from an informant in the computer and peripherals wholesale industry, "We also go out and hire the best as it relates to strategic and key positions in returns. We pay above market wages for that kind of competitive differentiator position." While differences between industries are likely to exist regarding which resources serve as critical inputs to RL capability, the interviews clearly revealed that mangers should focus on both human and technological sources of "knowledge."

Property-based resources are defined as "legal properties owned by firms" (Das and Teng, 2000). Examples include materials handling equipment, facilities, and transportation equipment. Across the companies involved in the research, assignment of financial capital to RL is considered critical. However, they also acknowledged that reverse logistics often receives lower prioritization than other supply chain functions and is allocated fewer property-based resources. To illustrate, the general manager of an apparel and furniture catalog retailer reported, "We are at a point now where the returns project is not competing well with other programs. Other departments have projects that are keeping the returns project from getting done. Returns-related investments are just not as great as some other projects." Another anecdote revealed one firm's struggle with inadequate property-based resources: "We had so many capacity constraints... it literally looked like one of your hall closets at home just packed with stuff." While numerous property-based resources were identified, perhaps the most interesting theoretical insight pertained to the idea that, across types, resources alone did not necessarily relate to better performance:

> *After years of heated discussions with senior management, finally, the reverse logistics operation received the much needed increase in dedicated budgeted funds. The investment predominantly focused on human resources, additional space, and equipment allocations dedicated to returns handling. Surprisingly, the following evaluation revealed that the increase in resources per se worsened the situation in terms of reverse logistics program performance.*
>
> Returns Manager, Wholesale Distribution Company

> *Not that long ago, it was just 'trying to survive', and we weren't spending too much time thinking about how to make the process better. We were just trying to figure out how to get inside the (new) building, and how to open the door without things falling out.*
>
> Distribution Manager, Returns Center for Computers and Peripherals

While property-based and unique knowledge-based resources *potentially* strengthen reverse logistics performance (as each were consistently mentioned as important to successful reverse logistics), there is evidence to suggest that the application of resources alone may not directly impact performance. This expands upon the most stringent view of RBV and is in keeping with a "dynamic capabilities" extension of the theory (e.g., Eisenhardt and Martin, 2000; Teece, Pisano, and Shuen, 1997). At the same time, these authors acknowledge that even though resources alone may not be enough to ensure competitiveness, they are the necessary foundation. Thus, the following proposition is offered.

> ***P1:*** *In order to develop viable reverse logistics capabilities to support a reverse logistics program, it is necessary to dedicate and commit both property-based and knowledge-based resources.*

Reverse Logistics Capabilities

Capabilities represent the organization's ability to develop ways to respond to changing customer requirements. Capabilities, here, refer to organizational abilities arising from reverse logistics programs that potentially create sources of competitive advantage, differentiation, and enhanced firm performance (Daugherty et al., 2005; Eisenhardt and Martin, 2000). The qualitative data revealed three reverse logistics capabilities with parallels in extant RL research: 1) Information Management rooted in Information Technology; 2) Innovation, and 3) Responsiveness (e.g., Richey, Genchev, and Daugherty, 2005). These three categories are explored in the following sections.

RL Information Management Capability

The need for developing reverse logistics information management capabilities is recognized as a top priority among the companies involved in

the research. The following quotes are illustrative:

Processing returns, receiving, locating, pulling inventory, cycle counts of physical inventory, all those things must be done automatically. (Technology) is pretty cool, takes a lot of the possibility of human error out—and it's much easier to train than employees. It just works more efficiently.

VP of Distribution, Catalog Retailer

Our client... has all the travel agents around the country utilizing a specific information network. If we don't have the ability to synchronize our information systems, we lose that customer.

VP Business Development, 3PL
Cross-Industry Service Provider

Establishing a reverse logistics information management capability, defined as the organizational ability to seamlessly integrate reverse logistics into the complete technological and informational network of the firm, should be a top priority (Daugherty et al., 2005). When the necessary resources are focused on building information management capabilities, the impact on companies' competitive positioning can be substantial (Closs and Xu, 2000). Developing firm-specific information management capabilities to support logistics is often the differentiating factor between industry leaders and average firms (Bowersox et al., 1989).

Although increased resources have been dedicated to technology systems related to forward flows of products and services, information technology solutions for reverse flows have received little attention (Norek, 2002). This was evident through several informants' comments including, "Because of the way our returns process program is programmed into our system, it's really tied to call entry systems and it uses some of the same screens. Management realizes that returns should be handled differently but... it's a very complicated process to reprogram returns the way we want it." One apparent challenge in developing this capability is the fact that *standardized* technological solutions for reverse logistics programs have often been unsuccessful (Stock and Lambert, 2001).

RL Innovation Capability

Because of the complexities involved, companies continually look for better ways to handle reverse logistics.

We are constantly evolving, coming up with new ways when it comes to handling returned product... from damaged in transit, customer wasn't there, refused by customer, to stock balancing, defective products, vendor errors, vendor quality defect, damaged goods...

Returns Manager, Wholesale Distribution Company

Reverse logistics is a funny industry in that everybody is a hobbyist to some degree or another. So, we are constantly evolving—coming up with new ways to process returned product.

General Manager, Global Operations, Computers and Peripherals 3PL

Reverse logistics innovation capability refers to the ability of the firm to apply new ideas to a set of reverse logistics processes (cf. Van de Ven, 1986). While these ideas could include information technologies, they may be independent or applied in combination with technology. Prior research on returns management has addressed innovation capabilities and found that they represent an important mediator of the link between resources and firm performance (Richey, Genchev, and Daugherty, 2005). Increased cost savings through efficient reverse logistics operations and value recovery require differentiated, innovative approaches (Guide and Wassenhove, 2002).

Based on the data, customized solutions often seemed to be needed for returns processing, in part, since returned product flow runs counter to

standard operations. In keeping with Zieger's (2003) descriptions of firms with RL competitive advantage, the study revealed a number of firms utilizing customer-specific and industry-specific management techniques and technologies. One informant from a technology-products wholesale company revealed, "Our rules for returns are based on each individual customer - the sales system 'decides' what the rules are, based on who the customer is - the main differentiator being sales volume." Such RL programs are clearly adhering to the cutting-edge notions of one-to-one marketing or customer-specific CRM practices. Innovation is thus considered vital to the success of a reverse logistics program and an important managerial consideration when exploring how and where resources should be committed.

RL Responsiveness Capability

The complexity of the returns process, compared with outbound logistics, presents challenges for firms. The need to quickly respond to changing market expectations about returns and fluctuating return flows, was mentioned by many as making reverse logistics particularly challenging. Informants that seemed most pleased with their systems also acknowledged that their reverse logistics programs were very capable of handling these complexities. It appears that a focused effort is necessary to keep reverse logistics programs responsive to changes and competitive pressures. For instance, one respondent said:

> *The biggest problem we face is lack of visibility of what will be returned today, tomorrow, next week, next month, next quarter, next year; it's very, very limited. In the worst case scenario, we are dealing with few minutes – the truck backs up hitting the dock – that's your visibility of this incoming volume of product. So, the ability to become responsive becomes very important. So, it's the ability to optimize and plan labor to get flexible in how you staff your operation ...within that unknown volume of returns.*
>
> Distribution Manager, Returns Center for Computers and Peripherals

Several examples of firms *being* responsive help to illustrate this point. A returns manager at a major manufacturer of consumer electronics revealed, "Speed/turnover is of utmost importance since you have credited the customers already." Another informant, involved in managing computer and peripherals returns, discussed how his firm possessed the ability to, "make some decisions right off the bat... if it's in warranty, or out of warranty, if it's an obsolete part, or if it's a part the customer doesn't want us to work on, so we can pull those out before we actually go through the testing process."

Reverse logistics responsiveness, defined as the firm's ability to respond to changing returns-related customer requirements, has been shown to enhance the competitive positioning of the firm (Richey et al., 2004). Since a return often signals a problem in the system, the ability of the firm to quickly address that problem can be an important differentiating factor (Malone, 2004). Processing orders "within 36 hours of when it's received" was critical for the wholesale distributor of technology products, creating a competitive advantage while wrestling with the unknown volume of product returns. Therefore, it is proposed that:

> ***P2:*** *The level of resource commitment to reverse logistics is associated with the following specific reverse logistics capabilities: IT, Innovation, and Responsiveness.*

Reverse Logistics Competency

With grounding in RVB, reverse logistics competency can be defined as mastery of the necessary processes for transferring firm-specific resources into reverse logistics capabilities. These processes should be organized by firm management in an effort to provide a source of competitive differentiation (Teece, Pisano, and Shuen, 1997). To accomplish this, Marien (1998) recommended that firms should look at new

approaches and consider reengineering of how their businesses are conducted with respect to reverse logistics. He suggested that "firms step back and take a hard look at what values reverse logistics processes can add for consumers specifically and society in general" (p. 44). Stock, Speh, and Shear (2002) cautioned that RL "shouldn't be viewed as a costly side-show to normal operations . . . Rather (it) should be seen as an opportunity to build competitive advantage" (p. 16). Other researchers have recognized the potential "powerful impact" of RL on costs, revenues, and customer goodwill (Mollenkopf and Closs, 2005). Stock and Mulki (2009) noted, "Organizations with excellent product returns processing capabilities (defined as those having processes that are both efficient and effective) can have a potential competitive advantage, which gets larger as the magnitude of product returns increases" (p. 52).

The way logistics operational processes are organized and executed can be crucial. What a firm is capable of achieving is not just a function of the available resources; it also depends on the firm's resource transformation. To illustrate, a sheer increase in the number of RL employees would not utomatically boost performance. A clear understanding of what makes a firm competent in reverse logistics is necessary. Table 3 provides definitions of reverse logistics processes.

TABLE 3
REVERSE LOGISTICS RELATED PROCESSES*

RL Processes	Definitions
1. Return Initiation	Seeking a return approval from the firm by the customer or sending the return direct to the returns center.
2. Route Determination	Determining the mode of transportation and destination for the returned product.
3. Return Receipt	Receiving returns includes verifying, inspecting, and processing the returned product with emphasis on assigning pre-disposition codes.
4. Select Disposition	Selecting a disposition option for the returned product.
5. Credit Customer	Charging-back the customer's account.
6. Performance Analysis	Analyzing returns and measuring returns-related performance criteria aimed at improving the whole reverse logistics operation.

* Adapted from Rogers et al. (2002)

Return Initiation

Return initiation is the process by which the customer seeks return approval (Return Material Authorization or RMA) or sends the return directly to a designated returns center. The ease of returning items and how quickly return authorization is received can mean the difference between satisfied customers and those who never come back (Norek, 2003). One key issue in developing a returns initiation process was being "proactive." This theme was often tied to the returns initiation concept. Moreover, firms struggling with their reverse logistics programs seemed to acknowledge a *problem* or difficulty associated with being proactive. Consider the following quote from an employee of a consumer electronics manufacturing

firm, "When it comes to returns, we do very little proactive resolution with our customers."

Another problem appears to be the difficulty in predicting the amount of returns at any given time, which clearly effects the front-end of the reverse logistics process. Uncertainty is then compounded at the detail level—which customer/firm will initiate returns, and how? This concern is illustrated by the following quotes, "We have discrepancies on a daily basis between what was declared through return initiation and what actually was received in the returns center." Working with downstream partners is important. "Few discrepancies are found between 'actual' and 'described by dealers' when a proactive approach exists between customers and the company and we try to get them to fill in the right info." (*Distribution Manager, Returns Center for Computers and Peripherals*)

The respondents realized the need for returns policies dealing with return authorizations. At the most basic level, without structured procedures across the distribution channel, significant problems with returns are likely: "If they (customers) ship the return back without calling in and reporting it, here, we'll scan it and nothing will come up, we wouldn't even know what it is." Developing and enforcing a structured return initiation process increases returns visibility and should help companies become more responsive (Sciarrotta, 2003).

> *Every time we have discrepancies we try to walk with them (the customer) through the process to identify where the problem is.*
>
> Distribution Manager, Returns Center for Computers and Peripherals

> *All customers have different SLEs (service level agreements effecting returns authorization).*
>
> Logistics Analyst, Manufacturer and Distributor - Self-Service Equipment and Technology Products

Route Determination

The second reverse logistics process involves the physical movement of the returned product to a returns-processing facility. In a typical reverse channel, end users or retailers initiate the return and wholesalers or manufacturers receive and process the returned product. In this stage, strict responsibilities are assigned for sending the return back, following a return authorization. A formal agreement among the parties involved can streamline returns routing (Rogers et al., 2002). Firms seek to create competitive advantages through this particular process by recognizing what should or should not be expected within an industry.

> *We put a US postal service label in each order that goes out. When the product gets to customers, and if they don't like it, all they have to do is put it back in the packaging, put that label on it and leave it at their mailbox or take it to the Post Office and it comes back priority mail.*
>
> Inbound Manager, Catalog Retailer Company

> *Stores are not even used to shipping returns, and so we cannot hold (that type of customer) liable to do it. We take care of ALL returns transportation. It's our responsibility.*
>
> Area Logistics Manager, Manufacturer and Distributor - Self-Service Equipment and Technology Products

Most firms seemed to utilize some method of pre-printing shipping labels for returns that specify the contracted carrier(s) and the exact location where the return should be sent. The routing, however, often varied by business partner in terms of destination, timing, carrier selection, and returned product condition (usually as agreed upon in advance with the business partners) with multiple modes being surprisingly commonplace because of the complexities involved.

Return Receipt

This process involves physical receipt of the product. Although the returns managers interviewed represent different industries and different types of businesses, wholesalers, retailers, and manufacturers, they each identified the following activities as crucial to receiving returns: 1) verifying the documentation accompanying each return; 2) inspecting the condition and packaging of each return; 3) informing the customer of any discrepancies/ exceptions not in accordance with the return policy; and 4) assigning pre-disposition codes for the processed return. Automation, in order to streamline subsequent handling of returns, appeared to be of paramount importance to this RL process:

> *These (returns) are going through one single receiving area that has customer returns coming in from all over the place. Could be coming in from actual end customers, from service technicians, from engineers. We put a license plate on the product, that's a unique identifier for a specific product and we use that through the system to track what we are doing...*
>
> *A lot of these will have bar codes already on them, so we can use that to load the information directly into our system. Once we get everything recorded and loaded into the system we can trace it through and make it easier to move from place to place...*
>
> *We have these automated machines here, we turn on the program and it tests out the module. If it's good, it will put a green dot on it and shoot it out to the 'green dot place' and if it's bad it will shoot it to the 'red dot place'. And it's just totally automated. Pretty simple process!*
>
> *We create a bar code that goes on the order number that it was sent in, the date that it got here, the pallet number that it came in, what the weight of the pallet was, and a commodity code. We can sort things out by the commodity codes now; hey, I need bunch of speakers and know that's commodity code 35, and pull out all the 35's in the warehouse and it'll tell us where those things are...*
>
> Distribution Manager, Returns Center for Computers and Peripherals

Clearly this processes success is dependent upon adequate resource commitment. While, at first glance it may appear that information technologies are the key resources, human capital was described as vital as well as evidenced in the following quotes:

> *It is one of the most complicated jobs here, Returns Processor, because they are handling cash transactions, they are really handing money, giving peoples' money back, determining whether they get their shipping charges back, or whether we charge them shipping charges. They are making a whole lot of decisions about how to treat this customer from a financial standpoint and they are making a lot of decisions about the quality of merchandise - is it good enough to go back in stock, should it go to a liquidator, should it get to refurb and they are also capturing data like different returns reasons codes so we can get different reports to know why we're getting high return levels on some of the products.*
>
> VP of Distribution, Catalog Retailer Company
>
> *Returns processing position is a pretty complicated position, probably the most complicated hourly position in the DC.*
>
> Logistics Center Director, Wholesale Distribution Company

Since returns involve a number of unknowns such as the time of return, volume, and physical/ operational condition, receiving returns typically involves a physical check of the returned product. Inspection is necessary to verify whether what the customer indicated is what actually arrived in the returns facility. An RMA "check" typically

involves a step-by-step comparison between the information on the screen and the returned product itself in addition to the accompanying documentation. A more detailed receiving system also allows for fast and accurate feedback to customers in case of discrepancies and a better estimation of the timing required for returns processing (e.g., refurbishment, replacement). Perhaps most importantly, the dominant theme associated with this particular RL process, i.e., the "automation" of the returns, helps to set the stage for the next process, selecting disposition. The success of this process in yielding responsiveness, as a capability, depends on adequate commitments of knowledge-based resources.

Select Disposition

"Disposition" refers to the determination of ultimate outcome for the product. Disposition options include the choice to, "refurbish, remanufacture, recycle, resell as is, resell through a secondary market, or send the product to landfill" (Rogers et al., 2002). Interviews emphasized the importance of "getting product back in the customer's hands by giving them a new product." A PC and computer peripherals wholesaler, for example, described pushing a return straight back to the manufacturer without costly re-stocking as an operational priority. In a similar effort, a manufacturer of electronic equipment applies a type of "cross-dock" operation getting overstock returns out the door, to other customers, without placing the product back in stock. This would clearly not be the case, however, within many other industries.

Across industries it was found that alternative channels for resale and refurbishment were quite commonly uncovered during the development of reverse logistics programs. While disposal might indeed be a logical choice (i.e., "waste" was a common theme related to disposition in the analysis), many firms considered disposition not in terms of cost-savings but in terms of untapped potential revenue.

Nobody buys the CRT monitors any more. At some point, we're going to send them to a recycler. They're going to take the gas out of the monitor and take the pieces apart and recycle it the way it's supposed to be. They are the experts... So, instead of liquidating into a land-dump, better someone else take some value out of the scrap first.

Warehouse Manager, 3PL Cross-Industry Service Provider

A few companies are contracting the liquidation function - those companies want to buy truck-loads.

Distribution Manager, Returns Center for Computers and Peripherals

That the theme (of recycling) was repeated across industries bears further scrutiny. Innovative RL programs seemed to have incorporated recycling into their disposition processes. However, determining whether this was due to cultural pressure, revenue generation, or simply that more established programs had longer to find (or be found by) recycling alternatives, was beyond the scope of the data. What was clear was that revenue recovery required forethought and planning, i.e., knowledge-based resources, and that innovative RL programs tended to be proactive by seeking out (sometimes multiple) options for recycling (see Guide and Wassenhove, 2002).

Customer Credit

There were substantial differences in how firms handled crediting their downstream business partners for returns. For many, the highest priority was a fast charge-back. Themes such as "relationship maintenance" were common to this reverse logistics process. The consensus for firms, who tended to be dealing with smaller, specialized orders, was that relationships could be compromised if the customer does not receive a refund/credit promptly.

When the product hits the receiving dock in ..., it's a 'done deal' in terms of money transfer...Corporate is responsible for the

returns authorization and crediting dealers overnight without actually seeing the returned product.

Returns Manager, Manufacturer - Consumer Electronics

Other firms, perhaps because of lower profit margins, were adamant about the importance of policies specifying not only who is "responsible" for the return and whether credit would be issued but who should pay for return-related shipping and other expenses. Even punitive remedies for customers' violations of important policies were well articulated by these firms. To illustrate, as the VP of Distribution at the catalog retailing company discussed, "the way we get the customer to pay for it, is by not refunding all their money, by withholding the freight charge from a refund, or by charging them extra for transportation." On-going financial commitments are critical for supporting the crediting process and handling.

The extent to which a firm establishes knowledge systems, in particular information technologies, allows quick and error-free crediting and promotes RL program responsiveness. In theory, there would be an interaction between detailed crediting processes and the commitment of knowledge-based resources in their effects on RL capability.

Performance Analysis

The process of analyzing returns-related performance is aimed at improving reverse logistics quality and identifying potential problem areas (Rogers et al., 2002). The following metrics were identified by returns managers: 1) volume of returns; 2) type/condition of returned product; 3) dollar value; 4) percent of sales; and 5) resources, including human resources, dedicated to returns. In-depth analysis of these measures can help to identify problem areas. Importantly, some reverse logistics programs' competencies even extended to real-time monitoring of the returns process by downstream channel partners.

It's online real-time, so (the business partner) can look at us any time and know exactly where we are at how many modules we processed. We have all kinds of metrics that are in the system. (They) can look at them any time they want to... We are (also) getting our certification ISO-14000 right now.

Distribution Manager, Returns Center for Computers and Peripherals

Analyzing the volume, type/condition of returns, and dollar values associated can provide a comprehensive list of reasons for returns and identify trends. For example, if a particular customer is constantly abusing the returns policy, this will be apparent when volume of returns and percent of sales data are examined. Conversely, analysis helps to identify problems attributable to the firm. For example, by describing the type and condition of returned products, one firm uncovered damage-related problems with specific outbound carriers for particular products shipments.

The following proposition is offered relative to the development of RL competencies.

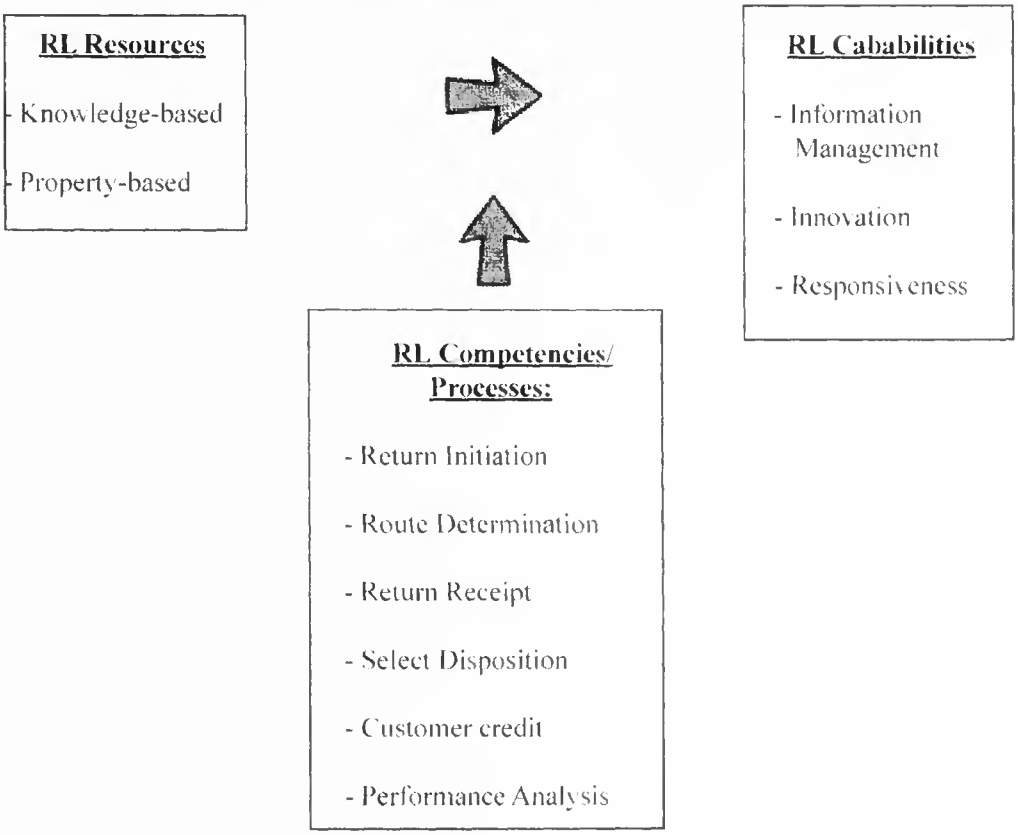
P3: *The positive relationship between the level of resource commitments in terms of a) property-based resources and b) knowledge-based resources to reverse logistics capabilities will be stronger when RL "competencies" have been developed.*

The framework presented in Figure 1 covers the three elements of interest – RL resources, RL competency/processes and RL capabilities. The framework illustrates the importance of jointly considering *resource allocation* with *key operational processes* in the development of state-of-art reverse logistics capabilities.

IMPLICATIONS

The research highlights the importance of resources and how resources can be focused to greatest advantage within a reverse logistics

FIGURE 1
FRAMEWORK FOR DEVELOPING REVERSE LOGISTICS CAPABILITIES



context. In the typical organization, everyone fights for resources to be able to carry out their responsibilities. Adequate resource support has always been an issue – and even more so given recent economic conditions. Reverse logistics is further hindered in that it's not "top of the mind" or "priority one" at most firms. The priority is usually getting the product *out* to the customers. Somebody else can worry about it if it has to "come back." Our research makes the argument that resources must be allocated to developing reverse logistics programs to avoid the potential negative impact on the bottom line. Conversely, if adequate resources (tangible/intangible or property-based/ knowledge-based) are targeted to reverse logistics programs, it can have tremendous positive financial impact as well as important relational implications. Prompt handling of returns can influence customer satisfaction and repurchase intentions or loyalty.

We have argued that firms should build competencies in the form of formal processes. The reverse logistics process competencies are proposed as necessary activities to create reverse logistics capabilities and, subsequently, improve performance. Unless a transformational mechanism is present, the argument that resources will enhance performance becomes circular since better performance will, in turn, result in accumulating more resources. There is no existing research linking the major elements of the RBV and the related Dynamic Capabilities extension in a concise theoretical framework that avoids the tautology criticism. The current research presents competencies as the necessary

link between resources, capabilities, and differentiated performance.

The six processes identified by Rogers et al. (2002) represent competencies and can provide the framework for organizing or formalizing a RL program that is customer-friendly. Their six steps provide the ordering of the tasks necessary to smoothly move product back through the system and to re-claim as much value as possible from the return. Too often, reverse logistics is an afterthought. Product gets back "some way," but no one knows what to do with it. The six processes provide a way to direct company efforts in an organized way.

The research has important theoretical implications as well. The RBV is often critiqued for the tautological nature of the main argument, for lack of empirical support, and questionable applicability in practice (Makadok 2001). The current research addresses the purported shortcomings in the following ways:

First, as discussed, reverse logistics process competencies are proposed as necessary activities to create reverse logistics capability and, subsequently, improve performance.

Second, the conceptual framework presented here sets the stage for extended empirical work on RBV. For example, the current research identifies RL processes as a construct that may change the dynamics of the relationship between resources and performance. In the RL context, spending more does not always mean having a competitive program. This leads to the third point.

Third, in an environment where supply chain and logistics managers are struggling to squeeze out every possible cost-saving penny in their distribution operations, the finding that detailing the RL processes may, in fact, be more important than spending more money to improve operations, is worth managerial consideration. Theoretically, the argument being made is for *how* reverse logistics capabilities arise given resource availability. The contribution to RBV in this paper is addressing the *how* through competencies. Managers understand a need in the market environment, assess their resources and recognize that certain competencies are necessary to enhance particular capabilities. Further, the combination of these processes can form reverse logistics competencies which help to create dynamic capabilities. This is because the competencies are rooted in the structure (i.e., IT) and the knowledge-based resources of the firm. If these resources are developed and targeted appropriately through applicable and relevant competencies (the management of the *how*), then they enhance capabilities while providing some dynamism to the firm's capabilities. Dynamism is addressed because management recognizes and can adjust through the manipulation of the competencies. Ultimately, this will differentiate performance.

LIMITATIONS AND FUTURE RESEARCH

Although information from interviews at seven companies was used, the current research was exploratory in nature. A quantitative empirical study is needed to test the proposed relationships among resources, reverse logistics competencies/processes, reverse logistics capabilities, and reverse logistics program performance. The RBV of the firm is a general theory related to strategic intent and competitiveness. Focusing on one aspect of a firm's operations, i.e., reverse logistics, limits the generalizability of the frameworks's applications.

An interesting possibility for enhancing generalizability is to study the effects of specific processes in terms of industry specificity and/or timing of introduction. Industries are impacted differentially by returns, i.e., some industries must contend with a high volume, continual flow of returns. Intuitively it would seem that these industries would develop the best practices and most efficient returns programs. But is that true? Benchmarking leading firms with established reputations for reverse logistics efficiency and effectiveness may offer important insights that can be "borrowed" or modified to fit other companies/industries.

The question of balance between benefits and drawbacks of formalizing RL processes requires more focused attention as well. Hard measures are needed in order to be able to conduct meaningful cost/benefit analyses. Focus should also be placed on better assessing the rewards associated with good reverse logistics. For example, what's the pay-off associated with providing high level customer service on returns handling? How does RL influence customer loyalty and repurchase intentions? Research could also focus on the feasibility of outsourcing reverse logistics rather than handling it in-house.

Reverse logistics has important implications relating to "green" initiatives; these issues have not been explored in depth at this point. Mishandling reverse logistics will leave companies vulnerable to regulatory retaliation and negative reactions from customers (Rodriguez, 2008). Alternately, RL activities can be handled in such a way to support sustainability and social responsibility-related corporate programs. However, greater insights are needed as to what is required to make this happen.

The "process" or competency perspective of transforming firms' resources within the RBV theoretical framework should be compared and contrasted to another theoretical perspective as a test of well-formulated theory application. The firm-specific level of analysis of the RBV may miss important implications in terms of customer relationship management and partner relationship management associated with program formalization. Considerations external to the firm are not specifically covered under the RBV of the firm.

To address these issues, the current research provides future research directions from both theoretical and practitioner perspectives. Our research can be considered an initial step in a systematic effort to test the applicability of the RBV in a particular business domain. Opportunities exist to extend the conceptual framework to other business areas within the firm and partners outside the firm. Comparative data from a firm and its trading partners and customers can provide for a better understanding of the general effects of formalizing processes.

Broader, more inclusive, research is needed to gain greater insights into the dynamic nature of process formalization itself. For example, different reverse logistics activities may require different degrees of formalization. Their relationships with enhanced performance should be investigated both in isolation and in different combinations. The effects of formalizing processes over time represents another area of interest. It might take a certain period after the initial introduction of formal operational rules and procedures before the full effect can be assessed.

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APPENDIX 1
INTERVIEW GUIDE*

Opening

1. Introductions of interviewer and interview participant
2. Overview of purpose of the study
3. Assurance of anonymity
4. Permissions to audiotape

Demographic Data

1. Company background
2. Titles of interview participants

Discussion Topics
Related to your RL program development and implementation:

1. Where the returns are coming from and how?
2. What are the major reasons products are returned?
3. What is the volume of returns?
4. How their return rates compare to competitors?
5. What is happening with the returns once they hit the receiving dock?
6. What are the major disposition options once a return has been processed?
7. Do you have a dedicated area for returns?
8. How many people are dedicated to reverse logistics (salaried vs. temporary)?
9. What resources are dedicated to RL? Relative to other areas?
10. What are some of the performance indicators for your RL program?
11. How do you monitor, control, and measure your RL process?
12. Are your customers satisfied with your RL operations?
13. Do you benchmark your RL program against your competition?
14. Do you outsource any of your returns-related activities?
15. Exceptions?
16. Do you have an employee handbook?
17. How do you decide what to do?

Additional Prompts

1. Patterns.
2. Seasonality.
3. Check Salvage.
4. Close loop operation.

*Adapted from Davis-Sramek and Fugate (2007)

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