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SERVICES MARKETING: A MEASURE THAT EXAMINES JOB-RELATED ATTITUDES OF EMPLOYEES IN THE SERVICE SECTOR

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ABSTRACT

This paper examines the differences between part-time and full-time employees in two different service industries using the concept of partial inclusion as an underlying theoretical framework. No differences were found among the health care workers, but part-time retail employees did have higher levels of inclusion and involvement. Retail and Healthcare managers should implement this measure to ensure employees feel a part of the organization.

SERVICES MARKETING: A MEASURE THAT EXAMINES JOB-RELATED ATTITUDES OF EMPLOYEES IN THE SERVICE SECTOR

Although part-time employees account for 28 percent of the labor force (Bureau of Labor Statistics, 2012), they continue to be on the "missing persons" list in organizational research (Rotchford & Roberts, 1982). Feldman (1990) asserted that research on part-time employees is critical because (1) of their sheer volume, (2) of their emergence as an important labor supply for entire industries such as healthcare and retail service industries, and (3) part-time work is an important employment opportunity for three major demographic groups in our society: younger workers, older workers, and female workers.

All too often, employment status (i.e., part-time, full-time) is not one of the variables considered in organizational research. The findings of studies that sampled one group are often generalized to the other, with typically research findings associated with full-time being generalized to part-time employees. This action is taken without regard to the appropriateness of generalizing from one type of employee to another. Managerial decisions and actions may be determined by these findings. Given the increasing role part-time employees are playing in organizations, it is appropriate to address the question of whether there are significant differences between part-time and full-time employees on variables of interest to organizational research. As noted by Miller and Terborg (1979), if important differences exist between part-time and full-time employees, future research should differentiate between the two groups.

Additionally, research findings tend to be generalized across industries without thought to how employees in those industries may differ. Industry specific working conditions, policies, training, etc. might impact research into job attitudes and behaviors and yield different results.

Although there has been some research on the issue of differences between part-time and full-time employees, it has often been conducted without an underlying theoretical framework.

Feldman (1990) and Rotchford and Roberts (1982) have called for a stronger theoretical foundation for future research in this area. The purpose of this paper is to examine the job attitudes of part-time and full-time employees in two different service industries using

the concept of partial inclusion as an underlying theoretical framework. Partial inclusion was noted by Miller and Terborg (1979) and Feldman (1990) as an important concept to examine in future research on part-time and full-time employees.

Service industries were chosen because 87 percent of the part-time workers are employed in service industries (Mabert and Showalter, 1990). Additionally, approximately one in every four workers employed in the service sector is a part-time employee (Mabert and Showalter, 1990).

The industries chosen were health care and retail sales. Both industries utilize a large percentage of part-time employees. According to Nardone (1986), over 77% of retail employees are classified as part-time. Three out of four hospitals report using part-time employees (Lundy, 1992). By using two different service industries a comparison between industries can be made.

REVIEW OF THE LITERATURE CONCERNING PART-TIME EMPLOYEES

As noted previously, part-time employees have been called the "missing persons" of organizational research (Rotchford & Roberts, 1982) because although part-time employees comprise nearly one-fifth of the work force, relatively little empirical research has focused on part-time employees. Additionally, the research that has been conducted has often had contradictory findings with conclusions ranging from "the differences between part-time and full-time salespeople seem substantial." (Darden, McKee, and Hampton, 1993, p. 12) to "... part-time and full-time workers are more alike than different." (McGinnis and Morrow, 1990, p. 94).

The majority of studies that examined part-time employees have focused on the differences in the levels of job satisfaction between part-time and full-time employees. However, there have been mixed results regarding levels of job satisfaction. Logan, O'Reilly, and Roberts (1973) and Levanoni and Sales (1990) found that part-time and full-time employees had about the same overall level of job satisfaction; however, when the facets of job satisfaction were examined separately, it was found that part-time and full-time employees differ in their patterns of satisfaction. For example, according to Logan, O'Reilly, and Roberts (1973), part-time workers placed more emphasis on the social aspects of their job than did full-time employees, whereas full-time employees placed more emphasis on aspects such as promotional opportunities. Horn (1979), Dubinsky and Skinner (1984), and McGinnis and Morrow (1990) found no difference between the levels of job satisfaction for part-time and full-time employees.

However, Miller and Terborg (1979) found part-time and full-time employees did differ significantly in their attitudes toward their job even after controlling for sex and tenure. They found part-time employees expressed lower satisfaction with work, benefits, and the job overall than full-time employees, but there were no differences in satisfaction with supervision, pay, or advancement. Both Hall and Gordon (1973) and Vecchio (1983) found part-time employees had lower levels of job satisfaction. Roberts, Glick and Rotchford (1982), Eberhardt and Shani (1984), Jackofsky and Peters (1987), and Wotruba (1990) found that part-time employees had higher levels of job satisfaction. Still (1983) asserted that because part-time employees have less contact with the organization than full-time employees, it should be expected that part-time employees would have higher levels of job satisfaction because they have less opportunity to develop feelings of dissatisfaction.

Although job satisfaction was the most investigated variable, other variables have also been examined in the part-time and full-time context. Still (1983) noted managers often believe part-time employees are less committed. Gannon (1975) also suggested part-time employees are less committed. However, many of the empirical studies which have examined levels of organizational commitment in part-time employees did not find significant differences between part-time and full-time employees' level of organizational commitment (Dubinsky & Skinner, 1984; Still, 1983; McGinnis & Morrow, 1990). Lee and Johnson (1991) found that full-time employees had higher levels of organizational commitment than part-time employees when both worked a preferred work schedule. The results were different when they worked unpreferred schedules, with part-time employees having higher levels of organizational commitment than full-time employees. Fields and Thacker (1991) found that part-time employees had higher levels of organizational commitment than full-time.

Job involvement differences between part-time and full-time employees have not been the subject of much research. Levanoni and Sales (1990) did find that part-time employees had lower levels of job involvement, although Werbel (1985) did not find any significant difference in the level of job involvement for part-time and full-time employees.

Other results in studies examining potential differences between part-time and full-time employees found part-time employees had lower level of self-rated performance (Dubinsky & Skinner, 1984) and lower absenteeism levels (Still, 1983) than full-time employees. Peters, Jackofsky, and Salter (1981) and Werbel (1985) found that turnover was differentially predicted for part-time and full-time employees. Hall and Gordon (1973) found that women who worked part-time had a higher proportion of role conflicts and more role overload. Hoverstad, Moncrief, and Lucas (1990) found that part-time salespeople had longer periods of employment than full-time salespeople. Also in a study of salespeople, Darden, McKee and Hampton (1993) found that employment status did moderate the relationship between the antecedent variables of participatory style, job involvement, and organizational commitment and response constructs of job satisfaction and performance. Examining direct selling employees, Wotruba (1990) found that part-time employees were more productive as measured by earnings per hour worked. In a comparison of job preferences among part-time workers from the 1970's and the 1980's, Phillips, Weaver and Matthews (1990) found the 1980's part-time workers were less likely to select meaningful work as their top preference and more likely to select high pay than the 1970's part-time employees.

PARTIAL INCLUSION

Partial inclusion has been suggested as the underlying reason for observed differences between part-time and full-time employees (Feldman, 1990; Katerberg, Horn, & Hulin, 1979; Martin & Hafer, 1995; Miller & Terborg, 1979; Peters, Jackofsky & Salter, 1981; Wetzel, Solosky & Gallagher, 1990). Partial inclusion was first identified by Allport (1933) and has been defined by Clinebell (1988, p. 5) as "the extent to which individuals perceive themselves to be part of the day-to-day activities of the organization". Miller and Terborg (1979) suggested that perhaps the differences in job attitudes between part-time and full-time employees were not inherently due to the part-time status of the respondents but because part-time employees have lower levels of inclusion. Logan, O'Reilly and Roberts (1973) used partial inclusion as an explanation of part-time and full-time employees' different frames of reference which could account for the differences in the pattern of job satisfaction they found.

Peters, Jackofsky and Salter (1981) suggested partial inclusion might result in a different psychology of work among part-time employees as compared to full-time employees. Feldman (1990) called for research on the influence of partial inclusion on job attitudes of part-time employees.

Although partial inclusion has often been suggested as an important construct to consider when examining the issue of part-time and full-time employees, it has never been empirically tested. The lack of empirical studies utilizing partial inclusion is attributable to the lack of construct development. However, that limitation to studying partial inclusion has been removed with the development of an instrument which measures levels of inclusion (Clinebell, 1988).

DEVELOPMENT OF HYPOTHESES

Given the presence of a measurement instrument, the influence of partial inclusion on variables such as job satisfaction for part-time employees can now be empirically studied. Wakefield, Curry, Mueller, and Price (1987) found that part-time employees place less importance on factors such as participation in decision making and being informed about the job. Often simply because they are in the workplace for fewer hours than full-time employees, part-time employees do not have the opportunity to participate in decisions or to keep current with occurrences in the workplace. Therefore, the following hypothesis is developed:

H1: Part-time employees will have lower levels of perceived inclusion than full-time employees.

Although some studies have not found differences in job satisfaction levels between part-time and full-time employees, many others have found differences. Some of the factors that have been found to be conducive to job satisfaction are mentally challenging work, personal interest in the work, and supervisors who help the employee attain his or her job values and who minimize role conflict and ambiguity (Locke, 1976). It could be argued that many of those factors might be higher for full-time employees than for part-time employees. Additionally; as was mentioned before, Logan, O'Reilly, and Roberts (1973) and Miller and Terborg (1979) used the concept of partial inclusion as a post hoc explanation for differing levels and/or patterns of job satisfaction between part-time and full-time employees. This relationship should be tested to determine if that explanation is appropriate.

H2: Part-time employees will have lower levels of job satisfaction than full-time employees.

It is widely believed that part-time employees are less committed to their organizations than are full-time employees (Still, 1983; Gannon, 1975); however, the majority of empirical studies have not found those results (Dubinsky and Skinner, 1984; Still 1983; McGinnis and Morrow, 1990). Lee and Johnson (1991) found that full-time employees had higher levels of organizational commitment than part-time employees if both types of employees were working their preferred schedules. Organizational commitment research has examined the relationship between personal characteristics and organizational commitment. This body of research has found that commitment has a positive relationship with age (Hrebiniak, 1974; Lee, 1971; Sheldon, 1971), opportunities for achievement (Brown, 1969;

Hail, Schneider, and Nygren, 1970; Lee, 1971; Patchen, 1970), and central life interest (Dubin, Champoux, and Porter, 1975).

Additionally, research on the relationship between job characteristics and organizational commitment have found positive relationships between organizational commitment and job challenge (Buchanan, 1974; Hall and Schneider, 1972). Research on the relationship between work experiences and organizational commitment have found positive relationships between organizational commitment and perceptions of personal investment and personal importance to an organization (Buchanan, 1974; Patchen, 1970; Sheldon, 1971).

Building upon the previously cited studies, Steers' (1977) model of the antecedents of organizational commitment included personal characteristics (e.g., need for achievement, age, and education), job characteristics (e.g., task identity, optional interaction, and feedback), and work experiences (e.g., group attitudes, organizational dependability, and personal importance). Many of the antecedents of organizational commitment might indicate a lower level of organizational commitment for part-time employees. For example, part-time employees might feel they are of lesser importance to the organization because of their part-time status. Additionally, using Becker's side bet theory (1960), it could be argued that full-time employees would have higher levels of organizational commitment due to their increased investments in the organization.

H3: Part-time employees will have lower levels of organizational commitment than full-time employees.

The few studies which have examined the issue of differences in job involvement relating to employment status have had mixed results (Levanoni and Sales, 1990; Werbel, 1985). According to Rabinowitz and Hall (1977), a profile of a job-involved person would include employees with the following characteristics: one who has a stimulating job (high autonomy, variety, task identity, and feedback), participates in decision making, and is satisfied with the job. Part-time employees often do not have very stimulating jobs and are often left out of the decision making process.

H4: Part-time employees will have lower levels of job involvement than full-time employees.

It has been asserted by many researchers that partial inclusion may impact the job attitudes and/or behaviors of part-time employees (Miller & Terborg, 1979; Logan, O'Reilly & Roberts, 1973; Peters, Jackofsky & Salter, 1981; Katerberg, Horn & Hulin, 1979; Feldman, 1990). This study will examine the influence of partial inclusion on job satisfaction, organizational commitment and job involvement. Additionally, since the two samples are from two different service industries, the effect of the industry will be examined.

METHOD

Samples and Data Collection

The sample utilized in Study 1 was comprised of nurses in the Patient Care Division of a 264-bed midwestern hospital. This population was chosen because hospitals employ a large number of part-time workers who do not differ significantly demographically from the full-time employees. The questionnaires were administered at staff meetings. The staff

meetings were held at 8:00, 1:30, and 3:45 to accommodate the three shifts. Two hundred and eight questionnaires were given to staff members and 98 usable questionnaires were returned yielding a response rate of 47 percent.

The sample utilized in Study 2 was comprised of sales clerks of a large midwestern retail chain. The questionnaire and a return envelope were included with the employees' paycheck. In an attempt to increase the response rate, a quarter was taped to each questionnaire. Two thousand ninety-five questionnaires were mailed, 1079 were returned, 791 of those usable, yielding a usable return rate of 38 percent. This study was limited to retail sales associates only. Those employees with managerial positions were eliminated, yielding a final sample size of 608.

The two industries are very representative of employers of part-time employees. The service sector accounts for 87 percent of part-time employment (Mabert and Showalter, 1990). In particular, the health care industry and retail sales tend to employ part-time employees and are attractive to part-timers. For example, many female nurses and retail sales associates may **wish** to work part-time while their children are young. Retail sales also provides employment opportunities for students.

Definition and Measurement of Variables

The variables that were measured in each study were levels of job satisfaction, organizational commitment, job involvement, and degree of inclusion. The instruments used to measure these variables were chosen for their reliability and validity. Additionally, demographic information such as age, sex, marital status, number of children and tenure on the job and in the profession was collected.

Job satisfaction is defined as "the degree to which employees have a positive affective orientation toward employment by the organization" (Price and Mueller, 1986; p. 215). The twenty-item Minnesota Satisfaction Questionnaire (MSQ) developed by Weiss, Dawis, England and Lofquist (1967) was used to measure job satisfaction.

Organizational commitment is defined as "the relative strength of an individual's identification with and involvement in a particular organization" (Mowday, Steers, and Porter, 1979; p. 226). The fifteen-item Organizational Commitment Questionnaire developed by Mowday, Steers, and Porter (1979) was used to measure organizational commitment.

Job involvement is defined as "the degree to which a person is identified psychologically with his work, or the importance of work in his total self-image" (Lodahl and Kejner, 1965; p. 24). The twenty-item job involvement questionnaire developed by Lodahl and Kejner (1965) was used to measure job involvement.

Partial inclusion is defined as "the extent to which individuals perceive themselves to be a part of the day-to-day activities of the organization" (Clinebell, 1988; p. 5). The twenty-nine item Degree of Inclusion Scale was used to measure degree of inclusion (Clinebell, 1988). The scale examines five dimensions of inclusion: communication, leader-subordinate interaction, decision making, priority of commitment, and group cohesiveness.

RESULTS

The demographic information concerning each sample is given in Table I. To determine if the samples differed, t-tests were conducted on the demographic variables between the retail and health care samples and also between full-time and part-time workers.

The retail and health care workers differed at a significance level 01.05 on the demographic variables of sex, age, marital status, and number of children. Combining both industries, part-time and full-time employees differed from each demographically on age, number of children, years employed in the present organization, and years in the occupation.

Table 2 shows the descriptive statistics, t-values, Cronbach alphas and the correlations among job satisfaction, organizational commitment, job involvement and partial inclusion. Significant correlations were found between perceived degree of inclusion and the other attitudinal variables in both samples.

As is shown in Table 2, there was no difference in the degree of inclusion between part-time and full-time employees in the health care sample. However, in the sample of retail sales employees, the t-value is significant at the .001 level which indicates a significant difference in the degree of inclusion between part-time and full-time sales associates.

No significant differences between part-time and full-time were found in either sample when examining job satisfaction and organizational commitment. No difference between full-time and part-time employees with regard to job involvement was found in the sample of health care employees, but a significant difference was found in the sample of retail sales employees.

A hierarchical regression was performed on each of the dependent variables of job satisfaction, organizational commitment, and job involvement with partial inclusion, employment status (full-time or part-time) and the interaction term of employment status and partial inclusion as predictors. As can be seen from the data presented in Table 3, partial inclusion was highly significant in each model. Employment status was significant at the .05 level in Model 2 for job satisfaction and organizational commitment. The interaction term of employment status and partial inclusion was not significant.

Table 4 shows the results of a hierarchical regression analysis performed on the dependent variables of job satisfaction, organizational commitment, and job involvement with partial inclusion, industry (retail or health care), and an interaction term of partial inclusion and industry as predictors. Again, partial inclusion is highly significant in each model. In Model 3 of job involvement, partial inclusion's significance is somewhat lower than in the other models, but it is still has a high level of significance. Industry is highly significant in Model 2 of organizational commitment, but is not significant in any of the other models.

A multivariate analysis of covariance (MANCOVA) using the demographic variables of sex, age, number of children, years in present organization and years in the occupation as the covariates and employment status and industry as the independent variables was conducted. The covariates were selected because they were the demographic variables on which the samples (parttime/full-time and retail/health care) differed significantly.

The results of the MANCOVA indicate that there is a significant multivariate effect (Wilks' lambda=.89834, $F=3.43365$, $p \leq .0001$) and significant F-statistics for job satisfaction ($F=2.26543$, $p \leq .05$), organizational commitment ($F=3.70336$, $p \leq .01$) and job involvement ($F=9.51744$, $p \leq .001$). The F-statistic for partial inclusion was not significant ($F=1.39000$).

Examining the main and interaction effects, it was found that there was not a significant main effect for employment status; however, the main effect for industry was significant (Wilks' lambda=.77588, $F=45.49627$, $p \leq .0001$). The interaction effect for employment status and industry was not significant.

DISCUSSION

The results of this study indicate that it may be an error to assume that we may generalize findings to all part-time employees across industries. There were differences between part-time and full-time retail sales associates with regard to levels of partial inclusion and job involvement; however, no such differences were found in the sample of health care employees. Surprisingly, the part-time retail employees had higher levels of inclusion and involvement than full-time employees.

The finding of no difference between full-time and part-time employees on job satisfaction mirror the findings of Horn (1979), Dubinsky and Skinner (1984) and McGinnis and Morrow (1990). Additionally, the Minnesota Satisfaction Questionnaire which was used to measure job satisfaction is a measure of overall job satisfaction and does not examine different facets of the construct. Logan, O'Reilly, and Roberts (1973) and Levanoni and Sales (1990) also found no significant difference between levels of overall satisfaction, but did find differences on different facets of the job.

Also, the finding of no difference between full-time and part-time employees on organizational commitment is consistent with the other studies that examined this question (Dubinsky & Skinner, 1984; Still, 1983; McGinnis & Morrow, 1990). The two studies mentioned earlier that examined the question of levels of job involvement had split findings; one found lower levels of job involvement (Levanoni & Sales, 1990) and the other found no difference (Werbel, 1985). This study also had split findings with the health care workers having no difference in job involvement and the retail sales employees showing a significant difference with part-time employees having higher levels of job involvement. Another surprising finding was that in the retail sales sample, part-time employees had higher levels of perceived inclusion. Both of these results could be a function of the expectations of the part-time employees. According to Goodman (1977), in a social comparison process, an individual will compare a characteristic to a reference point in order to evaluate that characteristic. Merton (1957) suggested that it is not the absolute level of a variable that produced satisfaction or dissatisfaction as much as it is the relative discrepancy between what one attains and what one expects to attain. If the part-time employees were treated identically to the full-time employees, the part-time employees may have felt more involved and more included than they had expected which may have in turn led to higher scores on the measurement scales. Eberhardt and Shani (1984) and Wotrub (1990) also asserted that lower job expectations could be used to explain their findings of higher levels of job satisfaction for part-time employees.

A possible explanation for finding no difference in the levels of inclusion between part-time and full-time nurses is their professional orientation. Nurses may identify more with their profession than with the category of their employment status. Again, the concept of social comparison may help to explain the lack of differences. Forty-five percent of nurses in that division of the hospital were part-time; therefore, they have such a large reference group, they may not feel different from the other employees. Thus, professional orientation and the large reference group of part-time employees might reduce the feelings of difference among the nurses.

The results of the regression analyses indicate the importance of partial inclusion in the determination of job satisfaction, organizational commitment, and job involvement. In each model, partial inclusion was a highly significant predictor of the outcome variable while

employment status and industry were only occasionally significant. The interactions between partial inclusion and both employment status and industry were never significant. These findings indicate that the researcherS who suggested that partial inclusion might be an important factor in determining the job attitudes of employees were correct. However, it appears that it is not just important for part-time employees. The inclusion levels of *all* employees appear to be important.

Limitations

The first limitation of this study is the small sample size in the health care sample, especially for part-time employees. The statistical power of the analyses may be reduced because of the small sample size. Additionally, the small sample size of part-time employees in the health care sample is of some concern because the division of the hospital in which the questionnaires were administered employs approximately 55 percent full-time and 45 percent part-time employees, and yet, it was difficult to get part-time employees to complete the questionnaire. Subsequently, a manager at the hospital attempted to increase the number of part-time respondents by giving the questionnaires to the head nurses and having them specifically request part-time employees to complete them. However, only two additional questionnaires from part-time employees were returned. This reluctance to participate is puzzling because the results of this study suggest that part-time employees do not differ significantly in their perceived levels of inclusion, job satisfaction, organizational commitment, and job involvement. However, those results were found from analyzing the responses of those part-time employees that did respond. It may be that the hospital has two types of part-time employees: those who do feel included in the hospital activities and do have levels of job satisfaction, organizational commitment, and job involvement equal to full-time employees, and those who do not feel included in the hospital activities, do not participate in surveys when asked, and may have lower levels of job satisfaction, organizational commitment, and job involvement than full-time employees. In fact, an argument could be made that those part-time employees who were specifically asked by their head nurse to complete a questionnaire and did not comply with that request were making a statement about their attitude toward the job and/or the organization. Those part-time employees may have a very narrow zone of indifference in which they will only comply with the most legitimate requests and feel they owe the hospital nothing that lies outside that zone of indifference. In all research projects in which participation is voluntary, there is a potential problem of a self-selection bias. In other words, those people who do choose to participate may differ on some of the variables under examination from those who refuse to participate. Given that a much larger number of full-time employees than part-time employees chose to participate, it appears there may have been some reason that kept part-time health care employees from participating. That reason could be confounding the results from that sample. However, the participation of part-time and full-time employees were approximately equal in the retail sample.

Practical Implications for Managers

One concern expressed by many researchers such as Ratchford and Roberts (1982), is that organizational research is being conducted without regard to whether the sample was

composed of part-time or full-time employees. They felt that if there were differences between part-time and full-time employees, the managerial applications being derived from this research could be erroneous. Therefore, organizational researchers have been called upon to examine potential differences between part-time and full-time employees to determine if these research findings are applicable to both part-time and full-time employees, if either. From the results of this study it does not appear that differences between part-time and full-time employees are as great as some authors, especially in the popular press, have suggested. Rather, the level of inclusion may be a more important factor. Managers should attempt to make employees feel more included in the day-to-day activities of the organization. This suggestion does not necessarily mean that managers should always apply participative management techniques (see Locke, Schweiger, & Latham, 1986 for a discussion of determining the appropriateness of participative management techniques). Rather, managers should keep employees informed about the activities and try to keep all of the employees of the same level included to the same extent. This suggestion arises from the concept of social comparison. If employees feel that they are excluded from organizational activities to a greater extent than their coworkers, they would be more likely to be dissatisfied with their level of inclusion.

Still (1983) suggested that a paradoxical situation has developed in which management persists in believing the popular press stereotype of part-time employees as less committed, harder to motivate, only in their jobs for the money, and don't care about their jobs while continuing to employ increasing numbers of part-time employees. If managers believe part-timers are less caring employees, they may treat them as such which may create a "self-fulfilling prophecy".

Future Directions for Research

The construct of partial inclusion needs more empirical research. It appears that it is a very important variable in the determination of job satisfaction, organizational commitment, and job involvement. Now that an instrument exists with which to measure partial inclusion levels, more research on this construct and its influence on the job attitudes and behaviors of both part-time and full-time workers needs to be conducted. As Feldman (1990, p. 104) asserted, part-time employees "...may focus on different context factors when they determine whether their partial inclusion in the work force is attractive, irritating or irrelevant." More research needs to be conducted to determine if partial inclusion is "attractive, irritating or irrelevant" or perhaps its attractive to one category of part-time worker, irritating to another and irrelevant to another group.

Which leads to the issue of different categories of part-time workers. Feldman (1990) discusses many different types of part-time workers. The impact of whether part-time work is voluntary or involuntary definitely needs to be addressed. It seems likely that a part-time employee who wants to work part-time may differ significantly in job attitudes and behaviors from a part-time employee who wants full-time work but can only find part-time employment. Lee and Johnson (1991) also examined the issue of preference of work schedule. Researchers need to further delineate part-time employees into more precise categories. There may be as many differences among different types of part-time employees as between part-time and full-time employees. Additionally, the temporary work force is growing at a rapid pace, and bears examination on the issue of inclusion.

TABLE 1
Demographic Information Reported in Percentages^a

Variable	Health Care Workers	Retail Workers
Sex		
Female	86.7	78.1
Male	6.1	21.6
Age		
under 21	1.0	7.4
21-30	34.6	23.8
31-40	38.8	14.9
41-50	10.1	21.8
51-60	6.0	21.1
over 60	1.0	11.0
Employment Status		
Full-time	69.4	48.5
Part-time	24.5	47.9
Marital Status		
Single	44.9	39.0
Married	45.9	61.0
Number of Children		
0	35.7	33.3
1	15.3	10.5
2	23.5	25.7
3	11.2	16.0
more than 3	6.1	14.5
Number of Years Employed at Present Organization		
less than 1 year	22.4	0.8
1-3 years	21.4	51.1
4-5 years	14.3	13.7
6-10 years	22.4	13.1
more than 10 years	13.3	21.3
Number of Years in the Profession		
less than 1 year	8.2	0.2
1-3 years	18.4	36.9
4-5 years	17.3	14.7
6-10 years	23.5	16.7
more than 10 years	26.5	31.5

^aPercentages may not add to 100 because of rounding and missing values.

TABLE 2
DESCRIPTIVE STATISTICS, CORRELATIONS, AND T-VALUES

Variable	Mean	Std. Dev.	t-Value	Reliability ^a	1.	2.	3.	4.
Sample 1: Health care employees ^b								
1. Degree of Inclusion								
Part-time	67.63	12.91						
Full-time	65.13	9.70						
			-0.78	0.97		.60*	.47*	.44*
2. Job Satisfaction								
Part-time	46.40	10.02						
Full-time	47.82	12.43						
			0.52	0.89			.82*	.46*
3. Organizational Commitment								
Part-time	46.77	10.74						
Full-time	48.93	12.93						
			0.61	0.90				.66*
4. Job Involvement								
Part-time	48.10	5.28						
Full-time	46.71	6.97						
			-0.93	0.98				
Sample 2: Retail sales employees								
1. Degree of Inclusion								
Part-time	97.64	13.06						
Full-time	94.51	12.35						
			4.01**	0.85		.60*	.47*	.44*
2. Job Satisfaction								
Part-time	65.57	12.68						
Full-time	65.22	12.91						
			0.36	0.90			.72*	.52*
3. Organizational Commitment								
Part-time	62.02	18.87						
Full-time	63.98	17.87						
			-0.98	0.91				.64*
4. Job Involvement								
Part-time	63.74	10.36						
Full-time	60.65	11.96						
			3.41**	0.85				

* $p \leq .01$

** $p \leq .001$

^a Reliabilities are Cronbach alpha estimates.

^b Due to missing values, the n for part-time employees ranged from 19 to 22. The n for full-time employees ranged from 58 to 65.

^c Then for part-time employees was 306. The n for full-time employees was 302.

TABLE 3
REGRESSION RESULTS FOR EMPLOYMENT STATUS AND PARTIAL INCLUSION

Variables	Intercept	Partial Inclusion (PI)	Employment Status (ES)	Interaction of ES and PI	F ^a	R ²	ΔR ²
Job Satisfaction							
Model 1 ^b	11.564***	0.566***			534.23	0.4360	
Model 2 ^c	11.412***	0.576***	1.750*		275.80	0.4530	0.0170
Model 3 ^d	15.157***	0.535***	-7.497	0.062	184.47	0.4542	0.0010
Organizational Commitment							
Model 1	5.987	0.602***			229.92	0.2497	
Model 2	5.753	0.618***	-2.829*		119.67	0.2644	0.0140
Model 3	6.005	0.616***	-3.215	0.004	79.66	0.2644	0.0000
Job Involvement							
Model 1	21.902***	0.422'			295.55	0.2996	
Model 2	20.052***	0.434***	0.845		154.33	0.3167	0.0171
Model 3	24.713***	0.384***	-6.310	0.077	103.80	0.3189	0.0020

* p < .05

** p < .01

*** p ≤ .001

^aAll of the F values were significant at the .001 level.

^bAll of the Model 1 equations had 1, 691 degrees of freedom.

^cAll of the Model 2 equations had 2, 666 degrees of freedom.

^dAll of the Model 3 equations had 3, 665 degrees of freedom.

TABLE 4

REGRESSION RESULTS FOR INDUSTRY AND PARTIAL INCLUSION							
Variables	Intercept	Partial Inclusion (PI)	Industry (Ind)	Interaction of Ind and PI	F ^a	R ²	ΔR ²
Job Satisfaction							
Model 1 ^b	11.564***	0.566***			534.26	0.4360	
Model 2 ^c	10.404***	0.593 [*]	-1.708		271.95	0.4495	0.0135
Model 3 ^d	-2.671	0.792***	12.455	-0.210	182.57	0.4516	0.0021
Organizational Commitment							
Model 1	5.987	0.602***			229.92	0.2497	
Model 2	3.611	0.717***	-9.422***		125.22	0.2733	0.0236
Model 3	-15.735	1.011***	11.533	-0.311	84.32	0.2756	0.0023
Job Involvement							
Model 1	21.902***	0.427***			295.55	0.2996	
Model 2	20.730***	0.399***	3.308		156.62	0.3199	0.0203
Model 3	21.944*	0.381**	1.992	0.019	104.26	0.3199	0.0000

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$ ^aAll of the F values were significant at the .001 level.^bAll of the Model 1 equations had 1, 691 degrees of freedom.^cAll of the Model 2 equations had 2, 666 degrees of freedom.^dAll of the Model 3 equations had 3, 665 degrees of freedom.

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SALES AND OPERATIONS PLANNING (S&OP): A GROUP EFFECTIVENESS APPROACH

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ABSTRACT

Sales and Operations planning (S&OP) is an approach meant to help firms achieve demand and supply balance, yet experts agree that it has fallen short on delivering anticipated benefits. Carried out by cross-functional teams, S&OP entails getting people from different thought worlds, especially sales, aligned around common goals. Despite ample practitioner guidance, there is a dearth of scholarly research indicating pathways to success. Using a group effectiveness theoretical framework, this study identifies both internal team factors and contextual influencers that are predictors of S&OP effectiveness. Perspectives were captured from S&OP team members across a wide cross-section of industries representing sales and operations functions using a survey-based approach. Results indicate that internal team factors of social cohesion and decision making autonomy are key drivers of collaboration. Similarly, information quality, procedural quality, and team-based rewards/incentives serve as contextual influencers of collaboration. In turn, collaboration serves as a central mediator, partially linking antecedents to S&OP effectiveness and also serving as a direct influencer of success. Moreover, having joint rewards and incentives, which is often not the case among S&OP teams, is the greatest overall driver of S&OP effectiveness. Overall, these findings provide empirically-based guidance for managers seeking to determine which factors are most important for S&OP team success. Additionally, grounding S&OP in principles of group effectiveness theory will also aid future academic study in efforts to help firms achieve greater demand and supply balance.

INTRODUCTION

Sales and operations planning (S&OP) is a formal process instituted by companies that attempts to balance customer demand with product supply. In a recent survey of global manufacturers, 70% of the study participants had implemented an S&OP process suggesting broad adoption, at least among large-scale firms (Prokopets, 2012). Companies expend significant resources and human capital trying to make S&OP successful. The process is carried out by what can best be described as a cross-functional planning team comprised of mid-level managers and analysts (Stahl, 2010; Wagner, Ullrich & Transchel, 2014). In order to achieve S&OP success the team must reconcile all demand and supply plans at both the detail and aggregate levels and remain synchronized with the overall business plan. Given the complexity and cross-functional nature of the S&OP process, this is a major challenge for most companies.

The challenges posed by S&OP originate at interfaces between marketing and operations subgroups, most frequently, the interface between sales and production. These groups see the world differently and are often at odds largely because they have different goals and they are motivated (e.g. incented) to achieve them in different ways (Mello, 2010; Shapiro, 1977). Sales representatives are typically motivated to grow revenue and be responsive to customers, entailing preferences for wide product variety and selling with a full complement of available products (Oliva & Watson, 2011; Singh, 2010). On the other hand, operations managers are often incented and evaluated according to production efficiency

measures, entailing preferences for narrow product scope and discrete inventory levels (Oliva & Watson, 2011; Shapiro, 1977). From a social perspective, marketing (e.g. sales) managers have typically risen up through the sales ranks while plant managers have ascended through production as foremen and production supervisors. Thus, both groups are pre-disposed to think and speak different languages as they have fundamentally different cultures (Shapiro, 1977). This phenomenon was initially referred to over 60 years ago by Peter Drucker, who called it the “great operational divide” within organizations – the gap between operational and customer facing employee groups that causes goal incongruence and inefficiency as a result (Drucker, 1954).

Cisco provides an example of the sorts of issues that can be created when S&OP failures occur. In the wake of the dot.com downturn during the late 1990s, Cisco Inc. had inventory write-offs of 2.1 billion dollars due to poor balancing of demand and supply (Chase, 2013). This is partially due to costs going up when demand is greater than supply from factors such as overtime, outsourcing, rush orders, and late shipments (Boyer, 2009). Similarly, costs also go up when supply exceeds demand through excess labor, inventory, equipment, and so on (Boyer, 2009). While Cisco and other companies such as Dow chemicals and Dell computers have gone on to develop world-class systems for managing demand and supply, these companies appear as the exception rather than the rule (Chase, 2013). In fact, most companies are not good at matching demand with supply and can benefit from a well-designed and properly implemented S&OP process (Mentzer & Moon, 2004; Wagner et al., 2014).

Given the practical importance of S&OP, academic research has begun the process of identifying what factors are predictive of successful S&OP initiatives (Tavares Thomé et al., 2012). Yet, most articles to date have been authored by consultants and practitioners, appearing in mainstream media operations and supply chain publications. In fact, less than 15% of articles related to supply-chain alignment are published in scholarly journals (Wong et al., 2012). This is especially true in the marketing field, where very few S&OP studies have been undertaken. Given that marketing has been virtually silent on the specific topic of S&OP, it can be reasoned that many marketers view S&OP purely as a supply chain initiative. Considering the important role that marketing and sales have in managing the demand-side of the S&OP equation, this lack of marketing attention represents cause for concern (Jüttner et al., 2007). In more specific terms, engagement of sales in the S&OP process can help in uncovering hidden revenue opportunities during windows of excess supply capacity (Lapide, 2004).

Within the limited academic contributions to S&OP, topics have typically centered on structural components of the operational process (Thomé, Scavarda, Fernandez, & Scavarda, 2012). Several models have emerged in order to aid practitioners in classifying firms according to various levels of S&OP process maturity (Grimson & Pyke, 2007; Lapide, 2004; Muzumdar & Fontanella, 2006; Wagner et al., 2014). Almost completely devoid in the literature are empirical models of the socio-cultural elements needed to predict S&OP success. S&OP has been described as a highly social process (Mello, 2010); it is easy to understand but difficult to implement due to matters that are people-related (Wallace & Stahl, 2008). In fact, navigating S&OP has been described as roughly 60% change management, 30% process, and 10% technology illustrating the importance of social and process-related factors (Chase, 2013; Iyengar & Gupta, 2013).

Practitioner-oriented articles allude to social principles that foster S&OP success such as collaboration (Mello 2015). However, these social factors, while anecdotally observed as important, have received little empirical attention (Oliva & Watson, 2011; Tavares Thomé et al., 2012). A noteworthy exception is a recent qualitative case study involving a single company. In this study, Oliva and Watson (2011) found that the mere formalization of

demand-supply balancing through an S&OP process can enhance constructive engagement between functional groups. The various functional groups were still not trusted to abandon their embedded biases, but constructive engagement improved participant perceptions of informational, procedural, and alignment quality despite an incentive structure that was not altered to complement S&OP team goals. These are interesting findings that warrant further exploration and empirical testing in a wider S&OP context. In fact, a recent summary of S&OP research identified socio-cultural factors surrounding S&OP as an area most in need of further empirical testing beyond case studies (Tuomikangas & Kaipia, 2014).

Therefore, the purpose of this study is to develop and test a theory-driven model of S&OP effectiveness across a wide cross-section of industries. S&OP is analyzed as a cross-functional team from both social and contextual support perspectives. First, a summary of the S&OP process and review of relevant literature is provided. Next, a model of S&OP effectiveness is developed, grounded in principles of group effectiveness theory. Hypotheses derived from the model are tested using a survey-based approach. Then, results and managerial implications are provided, and the study concludes by offering considerations for future research.

S&OP DEFINED AND LITERATURE REVIEW

S&OP has existed in principle going back to the 1980s (Grimson & Pyke, 2007) and emerged out of what was known as materials requirements planning. A formal definition of S&OP from APICS, a leading professional association for supply chain and operations management is as follows:

A process to develop tactical plans that provide management the ability to strategically direct its businesses to achieve competitive advantage on a continuous basis by integrating customer-focused marketing plans for new and existing products with the management of the supply chain. The process brings together all the plans for the business (sales, marketing, development, manufacturing, sourcing, and financial) into one integrated set of plans. It is performed at least once a month and is reviewed by management at an aggregate (product family) level. The process must reconcile all supply, demand, and new-product plans at both the detail and aggregate levels and tie to the business plan. It is the definitive statement of the company's plans for the near to intermediate term, covering a horizon sufficient to plan for resources and to support the annual business planning process. Executed properly, the sales and operation planning process links the strategic plans for the business with its execution and reviews performance measurements for continuous improvement.

Source: APICS Dictionary, 2005, p. 103

The planning horizon for S&OP usually extends between 6 and 18 months into the future with the 12 month mark as the average, coinciding with financial budget cycles (Wallace & Stahl, 2008). The process is generally implemented using some semblance of the steps described next (Grimson & Pyke 2007; Stahl, 2010; Wagner et al., 2014). First, data is gathered typically at the end of the month and key performance indicators are updated based on past performance. Preliminary demand forecasts are developed by sales personnel. These demand forecasts should be unconstrained, meaning that they center on what can be sold to customers irrespective of what can be produced by the company. The consensus unconstrained sales forecast should also incorporate anticipated marketing plans such as new product introductions along with advertising and promotion plans. Lastly, the new forecasts should be converted into monetary terms to facilitate ongoing financial reconciliation. Hence,

the development of the unconstrained demand forecast by sales personnel should involve discussions with both marketing and finance personnel (Wagner et al., 2014).

The next step involves having the operations team concurrently develop an initial supply plan. This plan incorporates supply goals such as inventory build-up or draw-down and is subsequently layered with the unconstrained demand plan in order to create what is often referred to as a rough-cut capacity plan (Grimson & Pyke, 2007). These first two steps might include formal and informal meetings, but the next step involves having a formal S&OP meeting. Stahl (2010) suggests having two formal meetings. The first meeting, often referred to as the pre-meeting, involves mid-level managers and the S&OP process owner or head of the supply chain. The objective is to develop consensus around demand and supply plans and to detail alternate scenarios when consensus cannot be reached. Concurrently, an updated financial plan is generated to compare actual performance against the business plan (Wagner et al., 2014).

The pre-meeting is typically followed by a monthly culmination meeting involving top-level executives and the S&OP process owner (Stahl, 2010; Wagner et al., 2014). Executives reach consensus on decisions that could not be made during the pre-meeting. Key performance indicators are reviewed and business plans/strategies are adjusted accordingly. These process steps are usually repeated each and every month (Wagner et al., 2014).

Tavares Thomé et al. (2012) provide a recent synthesis of both academic and practitioner-based research on S&OP. There are only a handful of quantitative studies using a questionnaire format, most only tangentially related to S&OP, for which brief summaries will now be offered.

Table 1
SUMMARY OF SURVEY-BASED S&OP RESEARCH

Study	Journal	Sample	Method	Propositions	Results
McCormack and Lockamy (2005)	<i>4th Global Conference on Business & Economics</i>	$n=55$, Managers from multiple levels representing a variety of U.S. based industries	Single Variable Linear Regression	Formal and informal mechanisms posited to foster functional integration in the supply chain	Both formal and informal exchanges affect performance. Informal collaboration had the largest coefficient at .51
Hadaya and Cassivi (2007)	<i>Industrial Management & Data Systems</i>	$n=53$, Supply Chain managers representing U.S. and Canadian based OEMs.	PLS-SEM	Joint collaboration planning will strengthen supply chain relationships, the use of inter-organizational information systems, and firm flexibility	Joint collaboration improved relationships, use of information systems, and firm flexibility
Olhager and Selldin (2007)	<i>International Journal of Production Research</i>	$n=128$, Managers from multiple levels representing Swedish manufacturing companies	Regression Analysis	Market uncertainty affects the choice of manufacturing planning and control, which in turn, directly affects performance	Higher levels of planning such as master scheduling and S&OP help firms achieve operational performance, especially under circumstances of high market

					uncertainty
Nakano (2009)	<i>International Journal of Physical Distribution & Logistics Management</i>	<i>n</i> =65, Managers representing Japanese manufacturing companies	Regression Analysis	High degrees of internal collaborative forecast planning will impact planning with suppliers, retailers, and positively impact performance	S&OP enhanced collaboration with suppliers and customers and helped to improve performance measures related to logistics and production
Wagner, Ullrich, and Transchel (2014)	<i>Business Horizons</i>	<i>n</i> =88, Managers representing process-based manufacturing companies from a variety of European countries	Mixed-Methods including simple reporting of means	S&OP will help to align strategic and tactical plans across a variety of indicators	Most firms describe their S&OP process maturity at the low-level reactive stage
Thomé, Sousa, Scavarda and Carmo (2014)	<i>International Journal of Production Research</i>	<i>n</i> =725, Directors of Operations representing manufacturing companies across several countries	Multiple stepwise regression	Assess the impact of internal S&OP practices and integration of the supply chain on manufacturing performance	Internal S&OP practices had a moderately to large positive effect on key aspects of manufacturing performance
Thomé, Sousa, and Carmo (2014)	<i>Industrial Management & Data Systems</i>	<i>n</i> =725, Directors of Operations representing manufacturing companies across several countries	Hierarchical regression analysis	Assess the moderating role of process and product complexity on the link between internal S&OP practices and manufacturing performance.	Extends the previous study by showing that product and process complexity amplifies the link between S&OP practices and dimensions of manufacturing performance

A common theme among these empirical studies is a focus on external relationships with suppliers and customers. They also tend to focus on integration more widely at the expense of a direct focus on the cross-functional S&OP team and related socio-cultural elements that drive S&OP team effectiveness. Excluding the most recent studies, another common theme is small sample sizes. Moreover, there is limited effort to ground S&OP research in theory including multi-stage models of associated relationships. Nevertheless, the wave of recent empirical articles indicates that scholars are starting to answer the call for more rigorous quantitative study of S&OP and the key success factors related to S&OP success.

THEORETICAL BACKGROUND AND HYPOTHESES

Group Effectiveness

Principles of group effectiveness are often organized by input-process-output (IPO) models that are applicable to a wide variety of work teams (Hackman, 1987; Nakata & Im,

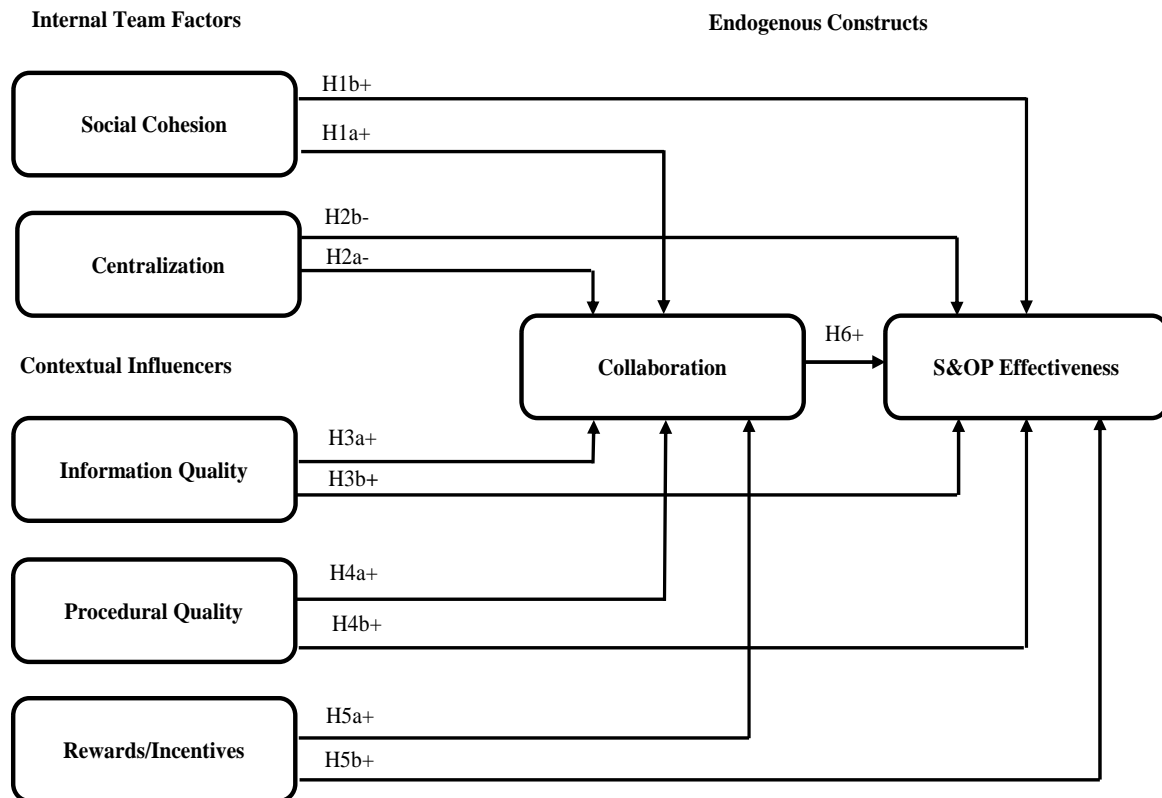
2010; Vincent, 2010). The success of various work teams hinges on both internal group dynamics and contextual factors that are external to the team but still within the firm (Hackman, 1987; 1990). Intra-team facets can be categorized as dynamics such as group autonomy and cohesiveness (Nakata & Im, 2010). Extra-team facets are labeled as contextual influencers and encompass a wide-variety of factors in the group's immediate work environment including such aspects as reward systems and available resources (Nakata & Im, 2010).

A core premise of IPO research is that inputs will affect group interactions which in turn lead to group consequences (Hackman, 1990; McGrath, 1964; Nakata & Im, 2010). For example, in certain settings groups with high-levels of cohesiveness (input) will affect change in group interactions (process) that subsequently improve group performance (output). The interactions of highly cohesive teams could involve greater encouragement within the team, more time spent collaborating, and more effort spent on team-related tasks (Hackman, 1987). However, the linear nature of IPO models does not preclude the possibility that inputs can have direct effects on outputs that do not necessarily flow through intervening process variables (Driedonks, Gevers, & Weele, 2014). Indeed, group effectiveness as advanced by certain scholars (e.g. Hackman 1987; Cohen & Bailey, 1997) shifted the focus from interventions associated with group interactions as popularized in psychology to focus more on group inputs. Hence, the way that groups are set up and initially managed can greatly influence success.

A group effectiveness approach is especially applicable for the investigation of small and complex work groups, and it has been extended to analyze the success of cross-functional new product development teams (Nakata & Im, 2010) and cross-functional global sourcing teams (Driedonks et al., 2014). S&OP is performed by what can best be described as a cross-functional team organized to tackle vexing demand-supply challenges within firms (Stahl, 2010; Wagner et al., 2014). As such, a cross-functional team is defined as: "a group of people who apply different skills, with a high degree of interdependence, to ensure the effective delivery of a common organizational objective" (Holland, Gaston & Gomes 2000, p. 233). Considering the wide-scope of IPO frameworks, coupled with the nascent stage of S&OP research, group effectiveness principles are especially suitable for exploring the cross-functional, team-based factors that apply to S&OP planning.

Offered specifically, are two team-level dynamics and three contextual factors to serve as model inputs. Collaboration serves as the central process variable and S&OP effectiveness as the output. The constructs were selected from the wide body of descriptive S&OP practitioner literature, more narrow body of academic inquiry into S&OP, similar contexts involving cross-functional product development and sourcing teams, and lastly, the voluminous organizational behavior literature on group effectiveness. These inputs do not represent the only potential antecedents of collaboration; however, they are in keeping with the dual focus of group effectiveness research on both internal team factors and external team influencers (Nakata & Im, 2010). Moreover, the inputs chosen are considered to be highly salient variables based on a review of the literature and they serve as a manageable number of factors to test.

Figure 1
S&OP EFFECTIVENESS MODEL



Collaboration

At its core, S&OP planning seeks to formalize collaboration between the functions that manage demand and supply (Wallace & Stahl, 2008). This formal collaboration is manifested in one or more S&OP meetings per planning period designed to develop overall integration and plan consensus (Stahl, 2010). Yet, even though cross-functional S&OP meetings may occur, their effectiveness can be greatly reduced without genuine collaboration (McCormack & Lockamy, 2005). There are preliminary indications that S&OP, when done well, can foster higher levels of informal collaboration (Oliva & Watson, 2011; Thomé et al., 2012). In turn, genuine collaboration allows different areas to "converse, learn and work across the silos that have characterized organizational structures" (Liedtka, 1996, p. 25).

Collaboration in this study is defined as the degree to which S&OP teams achieve goals collectively through joint planning efforts and informal communication, including a willingness to develop mutual understanding. It is described in the S&OP practitioner literature as the key element that allows groups to bridge their functional silos, solve vexing problems, and build trust (Sinha, 2015). However, considering that S&OP is practiced in a series of sequential steps with some experts suggesting only one formal meeting of the entire S&OP team per planning period; (e.g. Grimson & Pyke, 2007) the degree to which collaboration fosters S&OP success warrants empirical attention. Therefore, collaboration is projected as the central (process) variable in this study, anticipated to partially link antecedents to S&OP effectiveness.

S&OP Effectiveness

Concerning the measurement of group effectiveness, Hackman (1990) argues that desirable outcomes (e.g. group success) can be assessed according to three dimensions. The first dimension is that effective teams meet their client's expectations. A second measure of success is when a group is more capable of working interdependently when the work is finished than when the work began; hence, teams become effective collectively and will be poised to work together again in the future. Lastly, the group work should influence individual team members in a positive way such that individuals feel that they have learned and grown as result of the process (Hackman, 1990). Conversely, if people's "main reactions to the group experience are frustration and disillusionment, then the costs of generating the group product were too high" (Hackman et al., 2000, p.112).

A more recent synthesis of the literature notes that various effectiveness measures have greatly expanded since the seminal review of team research done by Cohen and Bailey in 1997. Effectiveness measures have grown to include such things as organizational performance, creativity, problem management, productivity, and many others (Mathieu et al., 2008). S&OP effectiveness in this study is defined as the extent to which S&OP team members view the experience positively, coupled with a sense that the team is successful in terms of overall S&OP performance. Therefore, this conceptualization of S&OP effectiveness combines traditional evaluations of group effectiveness with a context specific assessment of performance.

Internal Team Factors

Social Cohesion

The first internal team factor, social cohesion, is defined as the extent to which S&OP team members enjoy working with each other and are able to maintain collegiality within the group (Nakata & Im, 2010). As a core principle of social identity research, cohesion serves to help groups overcome negative stereotypes originating from members representing different functional areas (Sethi, Smith & Park, 2001). While it has not been studied in an S&OP context specifically, social cohesion is a common antecedent in models of group effectiveness (Cohen & Bailey, 1997; Nakata & Im, 2010). Interpersonal social ties have a positive effect on exchanges within a team, and thus, help to facilitate integration (Mullen & Copper, 1994; Vincent, 2010).

Social cohesion has been identified as an important determinant of stronger communication between different functional units within new product development teams (Moenaert et al., 1994). Similarly, it has also been directly linked to cross functional integration of product development teams (Nakata & Im, 2010). Positive emotions are helpful in overcoming negative attitudes and ingrained stereotypes that keep functional areas siloed (Dougherty, 1992).

Given the cross-functional nature of S&OP teams and the inherent difficulties in bridging these disparate thought worlds, social cohesion is an especially salient variable for this study. Being able to see the value in other's perspectives is a likely prerequisite to achieving genuine collaboration. Furthermore, having team members that are committed to maintaining interpersonal relationships should help to mitigate excessive levels of negativity and disillusionment. Assuring that frustration levels do not become too high is one of Hackman's (1990) criteria for assessing group effectiveness. Hence, it is hypothesized that:

H1a There is a positive association between social cohesion among S&OP team members and collaboration within the S&OP team.

H1b There is a positive association between social cohesion among S&OP team members and S&OP effectiveness.

Centralization

The second internal team factor likely to impact collaboration is centralization. Defined as the extent to which the concentration of S&OP decision making resides with upper management, centralization is an alternate way to measure levels of team autonomy (Hage & Aiken, 1967; Menon, Jaworski & Kholi 1997). High levels of centralization (e.g. low levels of autonomy) have been associated with decreased levels of job satisfaction and greater feelings of isolation among individual workers (Hage & Aiken, 1967; Pfeffer, 1981). In a cross-functional team setting, high levels of centralization inhibited constructive exchange of ideas (Menon et al., 1997) and heightened dysfunctional conflict as information became a weapon in turf battles between functional areas (McClure, 2010). Moreover, excessive meddling by top managers has been found to suppress group motivation (Trent & Monczka, 1994), and it detracts from interdepartmental connectedness, leaving workers disillusioned and advocating for functional views instead of acting as team players (Holland et al., 2000).

Tavares Thomé et al. (2012) echo the importance of team empowerment (e.g. decentralization) in their synthesis of S&OP research. When event driven meetings begin to occur above and beyond regularly scheduled meetings, this situation serves as a proxy that teams have become empowered and are at advanced stages of S&OP maturity (Grimson & Pyke, 2007). Concurrently, the practitioner literature anecdotally suggests decentralization of decision making as a key success factor for S&OP (Lapide, 2004). However, the degree of empowerment needed in an S&OP setting remains unclear and needs empirical testing. In fact, team-level autonomy as an input of generalized IPO models of group effectiveness has shown mixed results across various contexts. In their seminal review of work teams, Cohen and Bailey (1997) acknowledge that desire for group autonomy, and the associated performance implications, vary depending on the type of team being studied.

Decision latitude appears to be important for permanent teams, while simultaneously not as important when group tasks are routine and well understood (Stewart, 2006). S&OP is inherently designed to centrally connect strategic planning with more detailed operational planning, involving at least some degree of creative decision making (Wallace & Stahl, 2008). Furthermore, S&OP teams are not designed to be temporary in nature. Thus, it is likely that autonomy does matter in an S&OP setting and it is hypothesized that:

H2a There is a negative association between centralization and collaboration within the S&OP team.

H2b There is a negative association between centralization and S&OP effectiveness.

Contextual Influencers

Information Quality

Unlike internal team factors, contextual influencers such as information sharing and quality have received considerable attention in an S&OP context from researchers and practitioners alike (Bower & Fossella, 2013; McCormack & Lockamy 2005; Oliva & Watson, 2011). Information quality is defined as the extent to which information shared

between S&OP team members is appropriate, both in content and in form, for decision making. (Oliva & Watson, 2011). It is a contextual influencer because the information ultimately shared among team members may originate from several different places both within and outside of the firm.

From a theoretical perspective, transfer of information to the team is considered a necessary precursor for group effectiveness (Denison, Hart & Kahn, 1996; Hackman 1987; 1990). Standard S&OP practice suggests that information is shared both synchronously and asynchronously throughout the process (Grimson & Pyke, 2007; Stahl, 2010). However, exchange is of little value if the information is of low quality (Oliva & Watson, 2011). For instance, consultants and practitioners decry poor accuracy of sales forecasts as one of the main sources of S&OP dysfunction (Stahl & Wallace, 2012).

In their qualitative case study, Oliva and Watson (2011) witnessed a robust business assumptions package, developed over time that incorporated information about price changes, product offerings, promotion schedules, competitor actions, and general market conditions. Norms developed within the S&OP team that encouraged more information sharing in the plan and discouraged each function from with-holding knowledge; hence, information quality fostered collaboration. Therefore, to empirically test and replicate this single company observation, this study hypothesizes:

H3a There is a positive association between S&OP related information quality and collaboration within the S&OP team.

H3b There is a positive association between S&OP related information quality and S&OP effectiveness.

Procedural Quality

The group effectiveness literature espouses the important role of structured approaches to team work (Ford & Randolph 1992; Hackman, 1987). For instance, having formalized procedures in place within product development teams increases the likelihood of achieving new product success (Montoya-Weiss & Calantone, 1994). Similarly, Nakata and Im (2010) identify the degree of planning process formalization as a contextual support factor in their rendition of a group effectiveness model predicting new product performance. Support was found for higher levels of cross-functional integration predicated on higher levels of planning process formalization (Nakata & Im, 2010). Furthermore, in a cross-functional sourcing team context, formalization was found to be the best predictor directly leading to team effectiveness (Driedonks et al., 2014). Specifically within a marketing context, having a more defined process is suggested as a synergistic lever that can aid the often dysfunctional interface between sales and marketing (Hughes, Le Bon & Malshe, 2012).

Procedural factors have been the focus of most of the attention in the S&OP literature. Several researchers have sought to describe various stages of S&OP process maturity assessed along procedural dimensions (Grimson & Pyke 2007; Wagner et al., 2014). Moreover, consultants have written manuals and handbooks offering practitioners advice in step-by-step fashion for how to administer S&OP (Wallace & Stahl, 2008). The recurring nature of S&OP suggests a need for high quality procedures to ensure planning integrity. Despite the attention given to process by S&OP scholars, there is scant empirical evidence validating its importance in this context. In a rigorous case study, Oliva and Watson (2011) identified procedural quality as an important determinant of S&OP satisfaction. Defined as the extent to which the S&OP process continuously ensures that the rules of inference used

by the team are sound (Oliva & Watson, 2011); the authors argue that the strong degree of procedural quality they witnessed was a key contributor to achieving constructive engagement. This single company finding is important to validate more widely given the critical role assumed for process-related factors in an S&OP setting. Thus, it is hypothesized that:

H4a There is a positive association between procedural quality of the S&OP process and collaboration within the S&OP team.

H4b There is a positive association between procedural quality of the S&OP process and S&OP effectiveness.

Rewards and Incentives

A core principle of group effectiveness theory is to align rewards and incentives with team-related goals based on the premise that people tend to pursue behaviors that are rewarded and this is no different for groups (Hackman et al., 2000). Joint rewards enhance perceptions of interdependence and facilitate responsiveness (Chimhanzi, 2004). Hence, team effectiveness should be measured. Scholars acknowledge a growing trend to reward employees based on joint goals in addition to individual goals (Arndt, Karande & Landry, 2011). When rewards are allocated strictly through functional areas, at the very least, group effectiveness theory indicates that firms should be careful that these rewards do not unknowingly promote disincentives for teamwork (Hackman et al., 2000). Holland et al. (2000) largely credit the disbanding of quality circles because of a lack of associated team evaluation and reward systems.

Yet, the allocation of rewards for teamwork is a complex undertaking and has exhibited mixed results. Having joint evaluation and reward procedures preceded inter-functional cooperation between marketing, research/design, and manufacturing in a new product development context (Song, Montoya-Weiss & Schmidt, 1997). In a marketing and human resources integration study, joint reward systems positively impacted communication but not connectedness between the two functions (Chimhanzi, 2004). Meanwhile, Rouziès et al. (2005) suggest that the use of incentives requiring achievement of integrated goals positively impacts sales and marketing integration. Additionally, Xie, Strong, and Stringfellow (2003) found that the greater use of joint rewards leads to less goal incongruity in new product develop teams across multiple countries.

Conversely, Trent and Monczka (1994) did not find a significant relationship between joint evaluation/rewards and cross-functional participation in sourcing teams. The authors pointed out that only a small fraction of the teams in their study were evaluated and rewarded based on their participation in sourcing teams, and Trent (1998) has continued to advocate for rewarding team-based efforts as a best practice of sourcing strategy. In a more recent sourcing study, team-based rewards exhibited positive association with group effort, but an anticipated positive effect on overall effectiveness was not supported (Driedonks et al., 2014). Once again, the authors noted that many responders were not rewarded specifically for their sourcing team involvement, but no other explanation was given for the overall lack of hypothesized support.

Similarly, in an S&OP context, having a lack of team-based rewards and incentives may be especially concerning considering that team members may only devote a fraction of their time to the initiative. If there are no rewards and incentives directly tied to the process, group effectiveness theory indicates that it may be difficult for S&OP to achieve the priority level needed among team members. Yet, motivating the industrial sales force to focus on part-time initiatives beyond direct growth of revenues has proven to be a complex

undertaking. Researchers found that compensation tied to demand forecasting efforts did not serve as a significant motivator for the sales force to effectively engage in the process (Byrne, Moon & Mentzer, 2011). Further still, in a single case study of S&OP, Oliva and Watson (2011) found a robust S&OP process in absence of having team-based rewards and incentives. They speculated that the absence of joint rewards spurred the functions to constructively engage as a means of ensuring that their function's interests were protected. On the other hand, Wagner et al. (2014) cite the presence of bonuses tied to achieving S&OP key performance indicators as a signal of S&OP process maturity. Consultants also advocate for incenting S&OP team members to achieve team-based goals (Singh, 2010). For example, sales should be incented to care not only about new signings and revenues, but the associated costs (e.g. inventory management) as well. Therefore, this study hypothesizes that:

H5a There is a positive association between S&OP team-based rewards/incentives and collaboration within the S&OP team.

H5b There is a positive association between S&OP team-based rewards/incentives and S&OP effectiveness.

Outcome

There is a dearth of empirical research assessing S&OP effectiveness, and corresponding frameworks indicating pathways to this effectiveness (Thomé et al., 2012). Usually companies that are reaping the benefits of S&OP are described as having achieved higher stages of S&OP process maturity (Grimson & Pyke 2007; Wagner et al., 2014). These models note that in early stages, operations will often simply acquiesce to sales forecasts. Sales and marketing managers may disengage from meetings as they see little purpose for their involvement (Lapide, 2004; Singh, 2010). In fact, it has been suggested that the sales function is often resistant to the fundamental premise of S&OP when the process owner is from operations (Alexander, 2013). This is a mistake as engagement on both sides is likely to uncover hidden revenue opportunities for sales (Lapide, 2004). These discoveries are most likely to occur through the course of informal collaboration and during S&OP planning meetings. In a similar context, higher levels of collaboration between sales and marketing, two groups that also traditionally have strained cross-functional relations, was associated with increased business performance (Le Meunier-FitzHugh & Piercy, 2007)

There is also tentative case study support specifically in an S&OP context that actively engaged team members perceive positive benefits, especially in the area of horizontal alignment (Oliva & Watson, 2011). S&OP goals are more likely achieved when collaboration is robust. Hence, in keeping with the voluminous body of S&OP practitioner literature that stresses the crucial role of collaboration, it is important to subject this direct linkage between collaboration and S&OP effectiveness to scholarly scrutiny. Also, in keeping with the accepted logic of IPO models, it is projected that S&OP effectiveness (output) stems from collaboration (process), which in turn, is predicated on internal team and contextual influences (inputs). Thus, it is hypothesized that:

H6 There is a positive association between collaboration within the S&OP team and S&OP effectiveness.

Mediation

In his review of previous group effectiveness research, Stock (2004) notes that most studies fail to include two-stage models incorporating a process (i.e. group interaction) variable in the middle such as coordination or collaboration. He posited that the mixed

findings likely stemmed from a failure to capture the process variables that likely facilitated the relationships between inputs and outputs. Conversely, IPO models are often invoked with implicit assumptions of mediation that are not formally tested (Ilgen et al., 2005). It is common in group work for predictors to exhibit direct, indirect, or both types of relationships with dependent measures (e.g. Driedonks et al., 2014; Pinto, Pinto & Prescott 1993; Smith et al., 1994). By analyzing direct and indirect relationships simultaneously with structural equation modeling, we can better understand the nuanced associations that exist within IPO models (Stock 2004).

Collaboration is proposed as the central process variable in this study projected to partially link inputs to outputs. While there is plenty of anecdotal evidence in the guidebooks to suggest that collaboration is central to the S&OP process, unraveling the degree to which collaboration matters has relevance for both group effectiveness research and S&OP practice. Direct relationships have already been proposed between inputs and S&OP effectiveness. Thus, it is also important to explore the facilitating role that collaboration has in linking the inputs to S&OP effectiveness. Taken collectively, it is hypothesized that:

- H7 Collaboration within the S&OP team will partially mediate the associations between inputs and S&OP effectiveness.*

METHODOLOGY

Data Collection

A cross-sectional survey was employed to measure the constructs in the S&OP effectiveness model. The questionnaire was designed to assess key informant perceptions of the S&OP processes at their respective companies. Key informants are core S&OP team members representing mid-level management from the functional areas of sales and operations. The goal was to cover a wide cross-section of companies and industries with a relatively balanced mix of sales and operations perspectives. Key informant designs are prevalent in measuring the team-based constructs proposed in this study (*see* Akgün et al., 2012; Carbonell & Rodriguez, 2006; Sethi et al., 2001). The questionnaire was initially reviewed by academic experts ($n = 5$) with knowledge of S&OP and survey design expertise. The survey was refined and then pretested with core S&OP team members from both sales and operations ($n = 11$) in an online panel hosted by Qualtrics. Based on feedback obtained, the survey instrument was further refined for actual study implementation.

Analytic Approach

SPSS 23 was used to conduct an exploratory factor analysis, report descriptive statistics, and report between-construct correlations. Partial least squares structural equation modeling (PLS-SEM) was used to assess the structural model and to test the hypothesized linkages. PLS-SEM can be an acceptable alternative to covariance-based structural equation modeling (CB-SEM) when the research is exploratory in nature, the model is complex, and the sample size is small – all characteristics of the current research (Hair, Ringle & Sarstedt, 2011). Also, PLS-SEM is well suited for maximizing predictive capabilities and identifying key drivers of target constructs (Hair et al., 2013). Considering the need to identify key drivers of S&OP success, the choice of PLS-SEM is both appropriate and consistent with the overwhelming practitioner focus that has been the foundation of S&OP scholarship. There is also precedence for using PLS-SEM specifically in an S&OP context (*see* Hadaya & Cassivi, 2007). Hair and colleagues (2011) indicate that the sample size for PLS-SEM should exceed ten times the maximum number of paths pointing at an endogenous construct within

reflective models. The maximum number of arrows is 6 directed at S&OP effectiveness suggesting a minimum sample size of 60. SMART-PLS software version 3.1.5 was used for modeling and reporting purposes (Ringle, Wende & Becker, 2014).

To collect the final study data, a Qualtrics online panel was used. The sample frame consisted of S&OP team members from medium to large-size B2B companies. The firms represented a wide cross-section of companies spanning over 50 different industries. Traditional industrial manufacturing was prominent, but the sample also contained such industries as financial services, aerospace/defense, and consumer goods. Companies with a minimum of 100 million dollars in annual revenues were targeted because smaller firms are not likely to have a formal S&OP process involving multiple team members (Wallace & Stahl, 2008). The companies ranged in size from \$125 million to \$80 billion in annual revenues with a median size of \$3 billion. Mid-level managers were the primary target group representing the functional areas of sales and operations. In order to qualify for survey completion, respondents had to indicate that they were core S&OP team members, meaning that they were involved in analyzing information and attending S&OP meetings involving other functional units.

Of 933 surveys initiated, 144 respondents met the qualifying criteria for an internal response rate of 15.4%. Of the 144 qualified responders, 20 were eliminated based on failure to complete the entire survey. One additional response was eliminated based on answers given to several of the control questions that were deemed as infeasible. The final total consisted of 123 complete and valid responses; therefore, based on a recommended PLS-SEM minimum sample size of 60, the actual sample size is more than adequate for testing purposes. The sample comprised 101 mid-level managers, 14 top-level managers, and 8 analyst-level respondents. Seventy respondents are from sales and 53 are from operations; hence, achieving a balance of perspectives from both sides of the S&OP divide. There were 100 males and 23 females, and the average age is 47 with 25 years, on average, of work experience. No significant differences were found between early and late respondents concerning response patterns.

Since the objective was to test the group effectiveness model from the perspective of mid-level managers, a multi-group analysis was conducted using the heuristic offered by Henseler, Ringle & Sinkovics (2009) for detecting differences between heterogeneous groups within PLS-SEM. The test was performed to assess if the small number of combined top-level and analyst-level respondents differed significantly from the target group of mid-level managers on the associations proposed in the structural model. There were no significant path coefficient differences between the two groups on any of the direct and indirect associations in the model; thus, all 123 responses were kept in the dataset for final analysis.

Measures

Items in the questionnaire were based on established scales when appropriate and available. All items were rated on either five or seven-point Likert-type scales. (e.g. 1 = “Strongly Disagree” and 7 = “Strongly Agree”). Minor wording changes were made to the established scales in many cases to adjust for an S&OP setting. The social cohesion scale from Nakata and Im (2010) was adapted containing 4 items. Procedural quality was adapted from the planning process formalization scale of Nakata and Im (2010) containing 4 items. The 5-item centralization scale from Menon et al. (1997) was also used with minor adaptation to reflect an S&OP setting. Meanwhile, the rewards/incentives scale contains 8 items based loosely on the joint-reward scales used in Xie et al. (2003) and Song et al. (1997). The information quality scale was adopted from Li and Lin (2006) containing 5 items. The collaboration scale

consists of 4 items gleaned from Kahn and Mentzer (1998) and collaboration descriptors from Min et al. (2005). Lastly, this study used a newly created 4-item S&OP effectiveness scale based on Hackman's (1990) criteria for group effectiveness. Given the exploratory state of survey research in this area, it is common for new measures to be employed in S&OP studies (McCormack & Lockamy, 2005; Wagner et al., 2014). For control purposes, environmental turbulence has been suggested to have an impact on S&OP (Tavares Thomé et al., 2012). In this study, environmental turbulence is captured in the more specific measures of market and technological turbulence (Menon et al., 1997). Additional variables controlled for include firm size (i.e. number of employees), industry classification, and length of time on the S&OP team.

Measurement Model

Considering the early state of S&OP survey research, an exploratory factor analysis (EFA) was conducted on the measurement model. More specifically, a principal components EFA was conducted using promax rotation and extracting eigenvalues > 1 . With the removal of 3 items that had poor factor loadings or high cross-loadings, the EFA yielded 7 factors matching a priori expectations regarding the constructs in the model and confirming the unidimensionality of each construct (*see* figure 1). Additionally, both the Kaiser–Meyer–Olkin (KMO) value of .873 and Bartlett's Test of Sphericity (χ^2 2819 df = 561; $p = .000$), exceeded acceptable thresholds (Hair et al., 2010), indicating that the factor structure is appropriate.

In sum, 31 of the 34 items were retained for further analysis and each construct has at least four indicators. All items had loadings and communalities above .50. No cross-loadings exceeded .28 and there was a difference of greater than .30 in all cases involving cross-loadings and main factor loadings.

Further analysis of the measurement model was conducted in PLS-SEM. While the program contains no global goodness-of-fit criterion, it does provide a standardized root mean square residual value (SRMR). This computation assesses discrepancies in fit between observed and expected correlation matrices, thus, serving as an absolute measure of model fit criterion (Henseler et al., 2014a). Conservative standards suggest that models should have SRMR values less than .080 (Hu & Bentler, 1999). The S&OP effectiveness model achieved an SRMR value of .075 indicating a good fit. Next, model fit was assessed at both the construct and individual item levels. All indicators had acceptable loadings above .70 (Bagozzi, 1980). Each construct exhibited convergent validity with average variance extracted (AVE) greater than .50 (Fornell & Larcker, 1981) and reliability estimates greater than .70 using Cronbach's alpha scores (Hu & Bentler, 1999).

Discriminant validity was checked in three ways: First, all items loaded highest on their respective constructs; this criterion is often referred to as the cross-loadings test (Chin, 1998). Second, the square root of each latent variable AVE exceeds the highest correlation with other constructs (Fornell & Larcker, 1981). Lastly, within PLS-SEM it is recommended to check for discriminant validity using the heterotrait-monotrait (HTMT) method as this test can uncover cases in which discriminant validity is lacking even while meeting the Fornell-Larcker criterion (Henseler, Ringle & Sarstedt, 2014b). The S&OP effectiveness model passed the HTMT test using the most conservative threshold. For more details concerning the measurement model, table 2 lists all of the scale items including anchor labels and scale points, along with denoting which items were removed. Moreover, table 3 contains AVEs, correlations, means, ranges, standard deviations, and reliabilities for each construct.

Table 2 SURVEY ITEMS	LOADING
CENTRALIZATION	
Thinking about the S&OP process at your company, to what extent do you agree or disagree with the following statements: (1 = Strongly Disagree; 7=Strongly Agree)	
There can be little action taken by the S&OP team until upper management approves	.77
Decisions made purely by the S&OP team would be quickly discouraged by upper management	.79
Even small matters have to be referred to upper management for a final answer	.89
We have to ask upper management before we do almost anything	.89
Any decision that we make as an S&OP team has to have approval from upper management	.84
COLLABORATION	
During the past six months, to what degree did the S&OP team pursue the following activities and experience the following conditions: (1=Never; 7=Very Frequently)	
Engage in joint planning	.80
Have a mutual understanding	.87
Informally work together	.84
Achieve goals collectively	.88
INFORMATION QUALITY	
Thinking about the S&OP process at your company, to what extent do you agree or disagree with the following statements: (1=Strongly Disagree; 5=Strongly Agree)	
Information exchange within our S&OP team is timely	.80
Information exchange within our S&OP team is accurate	.86
Information exchange within our S&OP team is complete	.85
Information exchange within our S&OP team is adequate	.80
Information exchange within our S&OP team is reliable	.85
PROCEDURAL QUALITY	
Thinking about the S&OP process at your company, to what extent do you agree or disagree with the following statements: (1=Strongly Disagree; 7=Strongly Agree)	
In our S&OP process, plans have a specific format that is used by everyone	.84
We have clearly defined procedures for completed each step in the process	.86
We know which information sources are to be used in developing S&OP plans	.85
We have a precise timetable for completing the S&OP process	.79
REWARDS/INCENTIVES	
Thinking about the S&OP process at your company, to what extent do the following things occur: (1=Never; 5=Always; *=Item deleted)	
Our senior management promotes team loyalty over functional loyalty*	
Team members are evaluated based on team performance instead of individual performance*	
Departments share equally in the rewards from achieving S&OP goals*	
There are team based rewards for achieving customer service targets	.85
There are team based rewards for achieving inventory management targets	.78
Formal evaluation criteria are used for S&OP teamwork	.78
The team receives recognition when S&OP goals are exceeded	.86
The team receives financial incentives for exceeding S&OP goals	.81
S&OP EFFECTIVENESS	
Thinking about the S&OP process at your company, to what extent do you agree that the process has accomplished the following: (1=Strongly Disagree; 7=Strongly Agree)	
Increased the level of understanding regarding challenges faced by each function	.76
Enhanced team members' sense of professional accomplishment	.82
Increased willingness of S&OP team members to keep working together in the future	.86
Created a sense that the team is successful in terms of overall S&OP performance	.89
SOCIAL COHESION	
Thinking about the S&OP team, to what extent do you agree or disagree with the following statements: (1=Strongly Disagree; 7=Strongly Agree)	
Members of the S&OP team are very comfortable with each other	.87
Members of the S&OP team are very friendly with each other	.88
Our S&OP team has a very pleasant working atmosphere	.93
Members of the S&OP team are committed to maintaining close interpersonal relationships	.81

Table 3: AVEs, Correlations, Means, Ranges, Standard deviations, Reliabilities.

Constructs	X1	X2	X3	X4	X5	X6	X7	X8	Mean	Range	S.D.
Centralization (X1)	0.89								3.76	5.80	1.35
Collaboration (X2)	-0.31	0.87							5.20	5.00	1.06
Fanmanship (X3)	-0.09	0.12	0.88						4.94	6.00	1.69
Information Quality (X4)	-0.36	0.54	0.13	0.89					3.50	4.00	0.77
Procedural Quality (X5)	-0.16	0.52	0.04	0.48	0.86				5.00	4.75	1.13
Rewards/Incentives (X6)	0.10	0.41	-0.06	0.28	0.27	0.87			3.20	4.00	0.96
S&OP Effectiveness (X7)	-0.29	0.63	0.16	0.56	0.54	0.38	0.85		4.87	4.75	0.92
Social Cohesion (X8)	-0.40	0.57	0.20	0.53	0.55	0.18	0.54	0.89	4.86	4.50	1.10
AVE	0.70	0.72	0.80	0.69	0.70	0.66	0.70	0.76			

Bolded values on the diagonal are Cronbach's alphas.

Common Method Bias

All of the constructs are self-reported including predictor and criterion variables presenting potential for common method bias (Podsakoff et al., 2003). In keeping with best practices, potential issues with common method bias were mitigated at the outset by varying the number of scale points and scale anchor labels in the survey (Podsakoff et al., 2003). Additionally, a marker construct, not theoretically related to other study variables, was strategically placed within the questionnaire a priori allowing for post-hoc testing of potential common method bias effects. The marker construct, fanmanship, is a 3-item scale designed to assess the degree to which someone is an avid sports follower, and it was originally used as a predictor of gambling propensity (Mowen, Fang & Scott, 2009).

An examination of the correlations in table 3 demonstrates that consistent with a priori theoretical expectations, the marker variable has the lowest association with other constructs. More importantly, the marker variable does not have a significant or meaningful association with the criterion variables; hence, an initial review is favorable against undue influence of common method bias. Next, using the lowest correlation between constructs, a discounted correlation matrix was created per the marker variable heuristic offered by Lindell and Whitney (2001). There were no sign changes or loss of significance between the predictor and criterion variables in the discounted correlation matrix indicating that common method bias is not of major concern for results interpretations.

Finally, variance inflation factor (VIF) scores were computed for the constructs in order to detect potential issues associated with multicollinearity. Hair et al. (2013) suggest that VIF scores exceeding 5.0 can be problematic when attempting to interpret individual path coefficients. All construct VIF scores were below 2.5. Meanwhile, none of the individual items on any of the scales exceeded VIF scores of 4.0, indicating that multicollinearity does not pose undue influence on results interpretations.

RESULTS

A results summary for all of the hypothesized associations is offered in table 4. First, among the internal team factors social cohesion exhibited a positive and significant influence on collaboration ($\beta=.25$; $p<.01$) but not on S&OP effectiveness ($.05<p<.10$). Hence, H1a is supported while H1b is not. Meanwhile, centralization is negatively associated with collaboration ($\beta=-.15$; $p<.05$), but not with S&OP effectiveness ($p>.10$).

Next, among the contextual influencers, information quality exhibited a positive and significant impact on both collaboration ($\beta=.17$; $p<.05$) and S&OP effectiveness ($\beta=.18$; $p<.05$). Procedural quality also positively impacts both collaboration ($\beta=.21$; $p<.01$) and

S&OP effectiveness ($\beta=.19$; $p<.05$). Therefore, H3a, H3b, H4a, and H4b are all supported. Additionally, rewards/incentives is significantly linked to collaboration ($\beta=.29$; $p<.01$) and influences S&OP effectiveness ($\beta=.14$; $p<.05$) lending support for H5a and H5b. Analyzing the second part of the two-stage model shows that collaboration significantly and positively impacts S&OP effectiveness ($\beta=.28$; $p<.01$), supporting H6. Overall, nine of the eleven direct-effect linkages are supported.

Lastly, collaboration was tested for potential mediation with each of the inputs using the Preacher and Hayes (2004) bootstrapping method as recommended and outlined by Hair et al. (2013) for PLS-SEM. Once mediation was confirmed, scores were calculated to determine the degree of variance accounted for, or said another way, how much of the associations are absorbed by the mediator. Hair et al. (2013) suggest that variance accounted for values below 20% indicate no true mediation, scores between 20% and 80% indicate partial mediation, and scores above 80% indicate full mediation. Results indicate that collaboration partially mediates the associations between all of the antecedents and S&OP effectiveness, albeit at modest levels. The variance accounted for each input are as follows: social cohesion (34%), centralization (30%), information quality (21%), procedural quality (24%), and rewards/incentives (36%); hence, H7 is supported. The framework exhibited robust effects overall as captured in the adjusted R-squared values for the two endogenous constructs: collaboration (.50) and S&OP effectiveness (.52).

Table 4: Results of Hypotheses

Hypotheses	Predictors	A. Collaboration				B. Effectiveness			
		β	t	p	Result	β	t	p	Result
H1	Social Cohesion	.251	2.72	.003 ***	Supported	.129	1.32	.093 *	Not Supported
H2	Centralization	-.146	1.92	.028 **	Supported	-.095	1.06	.145	Not Supported
H3	Information Quality	.173	2.07	.019 **	Supported	.175	2.27	.011 **	Supported
H4	Procedural Quality	.210	2.41	.008 ***	Supported	.191	2.18	.015 **	Supported
H5	Rewards/Incetives	.289	3.47	.000 ***	Supported	.141	1.66	.048 **	Supported
H6	Collaboration					.279	2.95	.002 ***	Supported

* $p < .10$; ** $p < .05$; *** $p < .01$

R² (adjusted) Collaboration: .50; S&OP Effectiveness: .52

DISCUSSION

Theoretical Implications

By employing a traditional input-process-output (IPO) model involving cross-functional S&OP teams, this study provided an opportunity to explore how group effectiveness principles behave in a new context. As previously alluded to, most group studies fail to include two-stage models involving both direct testing and indirect testing through a process variable (i.e. collaboration), thus hindering our ability to gain a more nuanced understanding of group phenomena. The testing of both direct and indirect relationships predictive of S&OP success in the same model is an initial step forward that will hopefully foster additional research and validation. Results confirm that collaboration is indeed an important component of S&OP success. Collaboration exhibited the most significant and meaningful direct relationship with S&OP effectiveness, while also partially facilitating a connection between group inputs and S&OP effectiveness. This is an important finding considering that the S&OP process involves several iterative steps that do not

necessarily involve collaboration. In retrospect, it is not surprising that both internal team predictors (social cohesion and centralization) did not exhibit significant direct effects with S&OP effectiveness because these are the socio-cultural predictors that would impact S&OP effectiveness primarily through the amount of collaboration that they foster.

Regarding model advancement, the IPO framework performed well with respect to explaining over half of the variance in both endogenous constructs: collaboration and S&OP effectiveness. This research extends our understanding of group effectiveness theory by incorporating a two-stage model and explicitly testing the degree in which the process variable, collaboration, mediated the associations between group inputs and overall S&OP effectiveness. Group researchers often fail to incorporate intervening process variables (Stock, 2004) or mistakenly assume, without testing, that process variables fully mediate the associations between inputs and outcomes (Ilgen et al., 2005). Results indicate that in an S&OP setting, contextual influencers of information quality, procedural quality, and joint rewards/incentives have both direct and indirect associations with the outcome of S&OP effectiveness. On the other hand, internal team factors of social cohesion and autonomy impact overall S&OP effectiveness primarily through collaboration. These findings support that associations within group research are indeed nuanced and researchers in other group settings are encouraged to include two-stage models and explicitly test for mediation. It is premature to assume that all internal team characteristics flow through an intervening process variable, but as researchers test more complex models of group effectiveness in different settings, patterns surrounding mediation effects may begin to emerge.

The results also shed light on the importance of two specific group inputs: autonomy and joint rewards/incentives that have exhibited mixed findings in other team settings. In fact, having joint rewards/incentives is a core tenet of Hackman's (1987; 1990) conceptualizations of group effectiveness; yet, it appears that firms are hesitant or often ineffective in designing meaningful group incentives. The joint rewards measure as evidenced in table 3 has the lowest mean value even when adjusting for differences in scale points, which supports other findings previously alluded to that cross-functional teams often do not receive group-based incentives. Also, this finding does not reinforce the reasoning offered by Oliva and Watson (2011) in their single company case study that a lack of joint rewards fosters higher levels of constructive engagement as groups seek to protect their functional interests. Additionally, as found in this study, the importance of simultaneously fostering group autonomy while also maintaining high levels of procedural quality bolsters similar findings in a cross-functional sourcing team context in which the authors noted a seeming contradictory need for both autonomy and formalization in order to achieve team effectiveness (Driedonks et al., 2014).

Managerial Implications

From a management perspective, this study lends empirical support for several of the principles such as achieving high levels of information quality and fostering collaboration that are ascribed to in the S&OP guidebooks (e.g. Wallace and Stahl, 2008). However, as management strategists note, collaboration is expensive, and should only be invoked when the potential benefits outweigh the associated costs (Rumelt, 2012). Given the time and resource pressures for part-time S&OP work, coupled with the potential distance of team members operating within complex global companies, managers need to know that the time spent away from the functional home on S&OP-related collaboration is worth it. Indeed, collaboration appears to be a key ingredient in driving S&OP effectiveness. In order to foster collaboration, S&OP managers need to promote an environment of collegiality, not competition, among team members. Within other group settings, too much collegiality can encourage groupthink leading to an incomplete review of potential choices and sub-optimal

decision making (Sethi et al., 2001). However, in an S&OP context, this does not appear to be an issue. It is likely that the very nature of competing agendas between demand and supply facing groups creates inherent tensions among S&OP team members to overcome. Hence, the more cohesion that teams are able to achieve, the more likely that they will effectively manage these inherent tensions and achieve higher levels of genuine collaboration.

This study also provides managers with additional insight concerning the level of decision-making control that should reside within S&OP teams. Although certain S&OP authors advance the importance of group autonomy (e.g. Lapide, 2004), there is also a strong push for direct involvement of top-level executives in the planning (e.g. Boyer 2009; Wallace & Stahl, 2008). Some experts even label the process as *executive* S&OP planning (Stahl, 2010). While emphasizing group-level autonomy and direct top management involvement in S&OP are by no means mutually exclusive principles, this study demonstrates that achieving the proper balance is important. As confirmed by the centralization scale, excessive meddling by top management in the decision making process can be troublesome, discouraging teams from achieving true collaboration. Instead, S&OP teams should be empowered to develop holistic solutions and only defer decisions to top management when group consensus cannot be reached.

At the same time, S&OP managers should be unyielding when it comes to ensuring both information and procedural quality. Poor forecast integrity is common among S&OP teams for a host of reasons (Stahl & Wallace, 2012). Yet, this study highlights that poor information quality not only directly hurts S&OP effectiveness, but impedes the ability of S&OP teams to achieve genuine collaboration. Also, managers can now draw on empirical evidence indicating that consistent S&OP procedures will strengthen both collaborative efforts and overall S&OP effectiveness. Aspects of S&OP procedural quality for managers to emphasize include knowing which information sources are to be used, having consistent process steps and report formats, and lastly, ensuring that S&OP teams adhere to a specific planning timetable.

Further still, managerial effort should be spent carefully designing incentive schemes, for this is the most significant driver of collaboration in the S&OP effectiveness model. While experts do not deny that incentive alignment is important, they clearly describe it as a condition that is more indicative of late stage S&OP maturity (Grimson & Pyke 2007; Wagner et al., 2014). Instead, more emphasis needs to be placed on trying to get the incentives aligned correctly at the outset of S&OP initiatives. Despite mixed findings in other team settings, the management axiom: “what gets measured gets rewarded, what gets rewarded gets done” (Moon, 2013, p. 111), clearly applies to S&OP teams. Tying a portion of sales managers’ financial incentives to how the company performs on inventory management goals is one such mechanism that may help to keep sales engaged in the S&OP process. Similarly, tying a portion of operations managers’ financial incentives to how the company performs on fill rates and customer satisfaction goals may help to keep operations focused on matters that are important to sales.

Limitations and Future Research

Although the inclusion of several industries and balancing of perceptions from both sides of the sales/operations divide are significant steps forward for S&OP research; this study has important limitations that should be noted. First, although key informant designs are common for team-based studies (*see* Akgün et al., 2012; Carbonell & Rodriguez, 2006; Sethi et al., 2001), the unit of analysis is individual perceptions of team dynamics which adds a layer of abstraction compared to studies that are able to capture entire team perceptions (e.g. Pinto et al., 1993). Also, related to team dynamics, it is common practice to include

team members in the S&OP process from the functional areas of marketing, sales, operations, finance, and sourcing, especially in larger companies (Wallace & Stahl, 2008). This study only captures perspectives from sales and operations functions. The literature review demonstrates that goal incongruence most often resides between these two functions. Nevertheless, the lack of full S&OP team assessment excludes the perspectives of team members from other functional areas that may be different from the core areas of sales and operations. Additionally, it is common practice for S&OP teams to incorporate members from suppliers and customers external to the firm (e.g. Tavares et al., 2012), or even to have multiple S&OP teams (e.g. Feng, D'Amours, & Beauregard, 2010), and this study does not address these complexities. Therefore, exercising caution is prudent when interpreting the generalizability of the results and additional validation is needed to move these findings beyond an exploratory state.

Given the nascent state of S&OP academic research, there is tremendous opportunity for future study as firms seek to optimize collaboration within their supply chains (Stank, Dittman, & Autry, 2011) and marketing has a critical role to play (Lambert & Cooper, 2000). Although this study was able to capture over 50% of explained variance in S&OP effectiveness, this leaves a significant portion to be explained by other factors. For example, one specific enabler not explored in this study is team leadership. Does it matter which functional area that the S&OP process owner hails from, or are there specific leadership skills that are needed to navigate cross-functional teams such as S&OP? These questions need to be addressed with further exploratory and empirical research.

Future research should seek to validate the findings of this study in a field setting. Ideally, perceptions can be captured from entire S&OP teams or at least paired responses from the same companies representing a wide set of industries. While a daunting task, if enough teams are surveyed the unit of analysis can shift from individual perceptions to team-level perceptions. Additionally, the involvement of entire teams opens up the possibility of gathering assessments of predictor variables from S&OP team members and assessments of effectiveness separately from the S&OP team leader.

In closing, the limited success of S&OP initiatives has led some scholars to advocate for more holistic forms of demand-supply integration (Moon, 2013). Exactly how demand-supply balancing should integrate with larger business and strategic planning initiatives is of increasing concern to both academics and practitioners alike (Wagner et al., 2014). The group effectiveness approach outlined here is also relevant to larger strategic conceptions such as business planning integration. In fact, one could argue that aspects such as social cohesion and procedural quality are even more important to achieve in settings involving additional stakeholder groups.

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INFORMATION FORM AND LEVEL-OF-ANALYSIS AS MODERATORS OF THE INFLUENCE OF INFORMATION DIAGNOSTICITY ON CONSUMER CHOICE CONFIDENCE AND PURCHASE READINESS

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ABSTRACT

In order to build consumer choice confidence and ready consumers to act on purchase opportunities, marketing managers must determine the optimal combination of information characteristics that will produce the desired results. The results from this research reveal that this task is far from trivial. More than 200 consumers participated in a study. Findings indicate that unique combinations of information form (verbal vs. numeric) and level-of-analysis (summary-level vs. detail-level) moderate the influence of diagnostic information on choice confidence that has been documented in prior research. Moreover, information form and level-of-analysis also alter the influence of diagnostic information on purchase readiness, and measures of consumer understanding and preference clarity. The processes via which these effects manifest are also discussed. Given that information form and level-of-analysis are often varied in consumer marketplaces, this research holds important implications for marketing practice. The research also augments theory on consumer choice confidence and information diagnosticity.

INTRODUCTION

Product information plays a central role in readying consumers to act on purchase opportunities. Consumers rely on product information to understand choice alternatives (Akdeniz, Calantone, & Voorhees, 2013) and arrive at a confident choice decision (Mehta, Xinlei, & Narasimhan, 2008). Choice confidence, or the extent to which a consumer understands his/her preference and believes the preference to be correct (Heitmann, Lehmann, & Herrmann, 2007), serves as a gateway to many consumer reactions. These include purchase intention (Laroche, Kim, & Zhou, 1996) and purchase action (Greenleaf & Lehmann, 1995). Because choice confidence plays an important role in determining consumer response to purchase opportunities, it is important to develop deeper understanding of the drivers of this psychological state as well as its influence on purchase readiness.

Information that is more diagnostic (i.e., useful in a choice decision; Lynch Jr, Marmorstein, and Weigold (1988)) facilitates a choice decision and strengthens choice confidence (Yoon & Simonson, 2008). Prior research has shown that this relationship is altered by factors that change the way that consumers perceive, or engage in, the choice task. Some of these factors include personality traits (Andrews, 2013), and goals (Tsai & McGill, 2011) or characteristics (Andrews, 2016) of the choice task. To this growing body of literature, the present research adds a novel investigation of the moderating potential of two information characteristics that are commonly varied in consumer marketplaces, information form and level-of-analysis (LOA). Information form is conceived in the present research as product information that is represented verbally, i.e., via words such as “completely”, or numerically, i.e., via a number that represents a unit of measurement such as “100%”. In

practice, product information is also presented at different levels-of-analysis (LOA). Level-of-analysis (LOA) refers to the way that information is arranged, grouped, or organized. For example, information may be presented at the component (micro focus) or system (macro focus) level (Ostroff & Harrison, 1999; Singer, 1961). The present research examines differences in the influence of product information that is presented at an attribute (i.e., component) or a summary (i.e., system) level of analysis.

Marketing managers must determine whether to present product information in verbal form or an equivalent numeric form. Additionally, managers must decide whether to present attribute-level details about the product or to summarize the information for the consumer. Such decisions are, in no way, trivial. Differences in the way in which product information is presented have been shown to alter consumer response (Lutz, McKenzie, & Belch, 1983; MacKenzie & Lutz, 1989). Thus, it is important to understand the consequences to choice confidence of differences in information form and level-of-analysis (LOA).

Verbal vs. numeric information differ in terms of the specificity and the meaning that is conveyed (O. Huber, 1980; Viswanathan, 1994; Viswanathan & Childers, 1996). Each form of information exerts unique influences on the way that consumers process information (Childers & Viswanathan, 2000; Jiang & Punj, 2010). Differences in the way product information is processed are anticipated to produce corresponding differences in the influence of information diagnosticity on choice confidence.

Presenting information at a summary- vs. an attribute-level can also produce differences in consumer information processing (Viswanathan & Hastak, 2002). Therefore, level-of-analysis holds the potential to moderate the information diagnosticity effect. An examination of consumer marketplaces reveals that marketing organizations regularly employ different combinations of information form and level-of-analysis (LOA). For example, GoodGuide.com provides attribute-level ratings in numeric form for more than 250,000 products. In contrast, Whole Foods Market provides summary-level ratings in verbal form for its produce and floral products. Because verbal and numeric information can be presented at either an attribute-level or a summary-level, it is important to examine the influence of these information characteristics simultaneously. Therefore, the moderating influences of information form (verbal vs. numeric) and LOA (summary-level vs. detail-level) are investigated in this research.

This paper proceeds as follows. First, a theoretical framework is provided, which forms the basis for hypotheses development. Findings from the experiment are then reported. Finally, the implications for marketing theory and practice are discussed.

THEORETICAL BACKGROUND

Information Diagnosticity

Diagnostic information is perceived to be sufficient for the choice task (Nagpal, Khare, Chowdhury, Labrecque, & Pandit, 2011; Van Wallendael & Guignard, 1992). Such information helps the consumer to distinguish between choice alternatives and provides evidence that can justify a choice decision (Lynch Jr et al., 1988; Menon, Raghubir, & Schwarz, 1995). Diagnostic information may be characterized by greater quantity (Peterson & Pitz, 1988), extreme values, high validity (Griffin & Tversky, 1992), or unique characteristics (J. Huber, Payne, & Puto, 1982) that help consumers to discern differences between choice alternatives and to comprehend the value of those differences. Information cues (e.g., labels, ratings, attribute descriptions) which highlight the superiority of one choice alternative over others in a choice set are particularly diagnostic, or useful, in aiding consumer choice. The present research relies on information extremity to operationalize

information diagnosticity. Such cues make the “correct” choice decision transparent and reduce the need to make difficult trade-offs (Amir & Levav, 2008; Yoon & Simonson, 2008).

Choice Confidence

Choice confidence reflects the clarity with which the consumer understands his or her choice preference and believes that preference to be correct (Heitmann et al., 2007; Peterson & Pitz, 1988; Petrocelli, Tormala, & Rucker, 2007; Tsai & McGill, 2011). Confidence in a choice decision differs from general consumer confidence, which reflects general belief in economic stability or growth (Marrell et al., 2004). Choice confidence is distinguishable from attitudes in that both favorable and unfavorable attitudes may be held with varying levels of confidence (Fazio & Zanna, 1978). Choice confidence can be described as the certainty with which a consumer holds an attitude toward a specific choice decision (Rucker, Tormala, Petty, & Brinol, 2014). Because choice confidence reflects conviction in a given choice, choice confidence can also be construed as a precursor of purchase readiness (Kotler & Armstrong, 2001).

Choice confidence arises from metacognitions about aspects of a choice task (Schwarz, 2004; Tsai & McGill, 2011). The focus of these metacognitions can include characteristics of the information supporting the choice decision including: quantity or quality (Griffin & Tversky, 1992; Peterson & Pitz, 1988; Pleskac & Busemeyer, 2010; Van Wallendael & Guignard, 1992). Product information that is strong (Griffin & Tversky, 1992), easy to process, or high in quantity, or comprehensiveness can support confident choice and provide rationales for a choice decision (Rucker et al., 2014). In particular, information that simplifies choice decisions by reducing the need for tradeoffs or compromises increases choice confidence (Yoon & Simonson, 2008). If the external information is not deemed sufficiently diagnostic to support confidence, choice confidence can be derived from subjective evaluations of product information (Hammond, 1996). For example, findings from Andrews (2013) suggest that internal motivations of consumers with high need for closure enable them to experience levels of choice confidence that are equivalent to those generated by high diagnosticity information.

Purchase Readiness

A common objective of marketing communications is to move consumers toward a particular purchase action. Models of consumer response to marketing communications support the notion that consumers progress through stages of understanding and conviction prior to engaging in a purchase. The Hierarchy of Effects model consists of five stages that precede a purchase action: awareness, knowledge, liking, preference, and conviction in/commitment to a choice decision (Kotler & Armstrong, 2001; Lavidge & Steiner, 1961). Although the Hierarchy of Effects model has received criticism, it is generally accepted that consumers' progression toward purchase readiness involves stages of cognitive appraisal, determination of liking (for a choice alternative), and choice conviction prior to the purchase action (Barry, 1987). A correspondence exists between the concepts of choice conviction and choice confidence in that both choice conviction (Kotler & Armstrong, 2001) and choice confidence (Heitmann et al., 2007; Tsai & McGill, 2011) reflect belief in the correctness of a given choice. This supports the idea that some level of understanding of the choice alternatives and confidence in a specific choice decision precede purchase readiness. Evidence that choice confidence positively influences purchase readiness supports this supposition (Bennett & Harrell, 1975; Laroche et al., 1996). This relationship also suggests that choice confidence may serve as the path via which product information influences purchase readiness.

Information Form: Verbal vs. Numeric

The present research examines two forms of information, verbal vs. numeric. Numeric (e.g. “10 out of 10”) and verbal (e.g., “Best”) information offer different advantages for consumer information processing. Numeric information is perceived to be more concrete, i.e., definite and specific, than equivalent verbal information (Childers & Viswanathan, 2000; Jiang & Punj, 2010). In contrast, verbal information is argued to hold more inherent meaning than numeric information (Stone & Schkade, 1991) and to convey that meaning more readily (O. Huber, 1980). The meaning of verbal information is deemed to be more universally understood than equivalent numeric information because numeric information must be compared to a reference value in order to be rendered meaningful (O. Huber, 1980; Viswanathan & Hastak, 2002; Viswanathan & Narayanan, 1992). For example, the meaning of a product rating of “Best” (verbal form) may be universally understood, but a rating of “95” must be compared to a reference value, i.e., “out of 100”, to be rendered meaningful. This may be due to verbal information being more evaluative in nature than numeric information (Scammon, 1977).

Prior research suggests that the influence of information form on consumer response is not immutable, but rather, may vary as a function of other information characteristics (Gleim, Smith, Andrews, & Cronin, 2013). Gleim et al., (2013, Study 3) finds that consumers reported higher intentions to purchase an environmentally-friendly product when six product attributes were described in verbal form as opposed to numeric form. This evidence of the interplay between information form and information quantity highlights the need for simultaneous examination of the moderating potential of information characteristics.

Level-of-Analysis: Summary-level vs. Attribute-level

Product information can be provided at a summary-level, i.e. a holistic description of the product, or at an attribute-level, i.e., information about multiple product attributes. Differences in the aggregation/disaggregation of information represent different levels-of-analysis (LOA). LOA refers to the way information or phenomena are sorted or grouped (Singer, 1961). Micro- vs. macro-level focus corresponds with disaggregated vs. aggregated information, respectively (Ostroff & Harrison, 1999). For example, in organizational research, information can be disaggregated and presented at the level of the individual (micro-level) or aggregated at the level of the organization (macro level). Correspondingly, product information can be presented in disaggregated form at the level of product attributes or it can be aggregated into a summary of the whole.

Presenting information at a summary-level can reduce the information processing needed for consumers to comprehend (Viswanathan, 1994) and evaluate information (Viswanathan & Hastak, 2002) and product choices (Barone, Rose, Manning, & Miniard, 1996). Both summary- and attribute-level information may hold advantages for consumers. Summary-level information may aid time-impovertised consumers by simplifying the choice decision with ready-made evaluative information (Spenner & Freeman, 2012). On the other hand, a 2015 Harris Poll indicated that consumers prefer to have more (not less) product information (Leggatt, 2015). To that end, attribute-level information can provide a greater volume of justifications for a given choice which can support choice confidence (Rucker et al., 2014) and reduce purchase delay (Greenleaf & Lehmann, 1995).

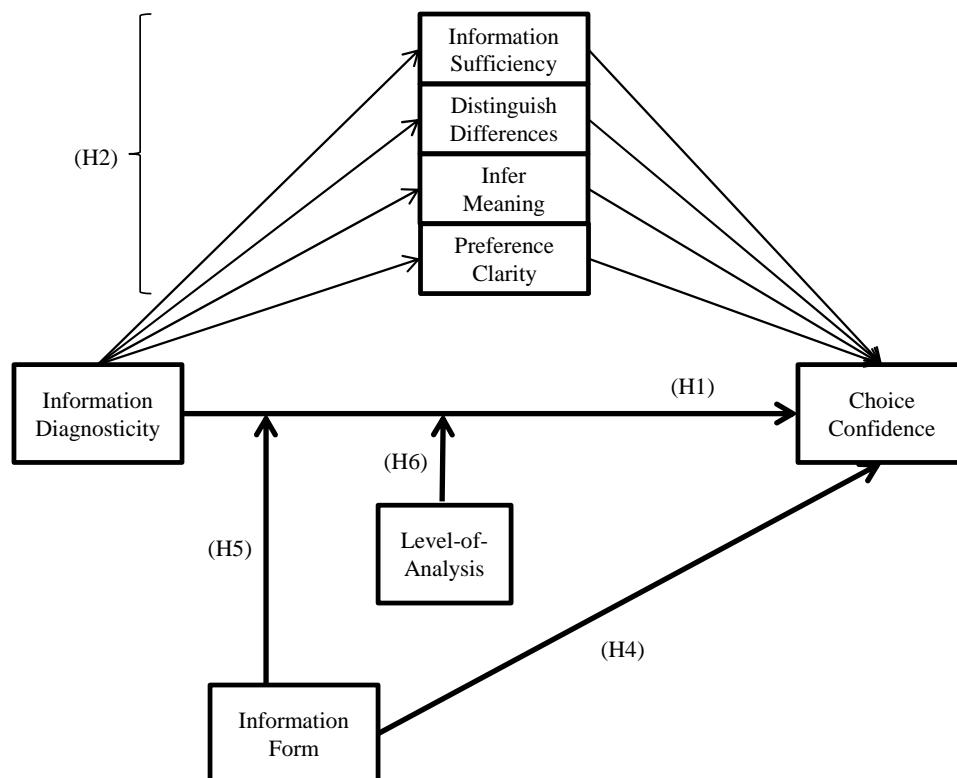
HYPOTHESES

Influence of Information Diagnosticity on Choice Confidence

Some choice contexts are characterized by information that highlights a superior alternative in a choice set. Information cues that identify the superior choice alternative make it easier for consumers to discern the best choice alternative and arrive at a choice decision (Amir & Levav, 2008; Yoon & Simonson, 2008). Such information cues help the consumer to discern differences between choice alternatives and provide justification for a given choice decision (Lynch Jr et al., 1988; Menon et al., 1995). This transparency reduces the need for difficult tradeoffs which can produce choice conflict (Tversky & Shafir, 1992) and feelings of difficulty which can undermine confidence (Tsai & McGill, 2011). Congruent with prior research (Andrews, 2013, 2016; Tsai & McGill, 2011; Yoon & Simonson, 2008), a main effect of information diagnosticity on choice confidence is hypothesized such that choice confidence will be higher when product information is more (vs. less) diagnostic. This, and the other hypothesized relationships, is depicted in Figure 1.

H1: Choice confidence will be higher when product information is more (vs. less) diagnostic.

Figure 1
CONCEPTUAL MODEL OF PROPOSED INFLUENCES ON CHOICE CONFIDENCE



Mediation of the Influence of Information Diagnosticity on Choice Confidence

Prior research has demonstrated that the influence of information diagnosticity on choice confidence is partially mediated by perceptions of information adequacy, or sufficiency, for the choice task (Andrews, 2013, 2016). Diagnostic information is perceived to be more sufficient for the choice task (than nondiagnostic information) which, in turn, yields higher choice confidence. This finding is congruent with evidence that high

diagnosticity information reduces the desire for additional information (Van Wallendael & Guignard, 1992). It also corresponds with evidence of a positive relationship between perception of information comprehensiveness and choice confidence (Rucker et al., 2014). The partial mediation by information sufficiency (Andrews, 2013) suggests that other variables exist that may further explicate the process by which information diagnosticity influences choice confidence. The mediating potential of three additional variables is evaluated in this research. The variables reflect three effects of diagnostic information that have been noted in prior research and may, reasonably, be expected to influence choice confidence.

Diagnostic information facilitates discernment of differences between choice alternatives (Lynch Jr et al., 1988), supports formation of choice preferences, and provides justification for a choice decision (Menon et al., 1995). Diagnostic information that highlights a superior choice alternative in a set is particularly effective in producing these outcomes as the choice task is simplified to one of merely picking the identified alternative (Amir & Levav, 2008; Yoon & Simonson, 2008). To the extent that these outcomes influence choice confidence, they may mediate the influence of information diagnosticity on choice confidence.

Choice confidence reflects the extent to which a consumer has a clear preference, understands his or her preference, and has reason to believe that preference to be correct (Heitmann et al., 2007; Peterson & Pitz, 1988; Petrocelli et al., 2007; Tsai & McGill, 2011). Factors that facilitate formation of a clear preference for a choice alternative, aid understanding of a choice, or provide justification for a belief that a given choice decision is correct will strengthen choice confidence. Diagnostic information enables consumers to detect differences among choice alternatives (Lynch Jr et al., 1988). These differences provide a foundation for comparison, evaluation, and understanding of competing alternatives. Arguments in favor of a choice alternative provide justification for a choice and strengthen choice confidence (Griffin & Tversky, 1992). Information that highlights the superiority of a choice alternative is readily understood because it makes the “correct” choice decision clear and provides justification for a stated preference (Amir & Levav, 2008). When the choice task is made easier, consumers experience higher choice confidence (Tsai & McGill, 2011; Yoon & Simonson, 2008). Based on this, it appears that the consequences of diagnostic information previously described may correspond with the origins of choice confidence. To evaluate this possibility, ability to discern differences between choice alternatives, ability to understand choice information, and preference clarity, are added to perception of information sufficiency and evaluated as potential mediators of the influence of information diagnosticity on choice confidence. These hypothesized mediating relationships are depicted in Figure 1.

H2: The influence of information diagnosticity on choice confidence will be mediated by information sufficiency, ability to distinguish differences, ability to infer meaning, and preference clarity.

Mediation of the Influence of Information Diagnosticity on Purchase Readiness

Prior research shows that choice confidence positively influences purchase readiness (Bennett & Harrell, 1975; Laroche et al., 1996). A correspondence exists between the concepts of choice conviction and choice confidence in that both choice conviction (Kotler & Armstrong, 2001) and choice confidence (Heitmann et al., 2007; Tsai & McGill, 2011) reflect belief in the correctness of a given choice. At least one model of purchase readiness asserts that choice conviction is a precursor of purchase action (Hierarchy of Effects Model; Lavidge and Steiner (1961); Kotler and Armstrong (2001)). This suggests that choice

confidence is also a precursor of a consumer's readiness to engage in a purchase action. Given that diagnostic information positively influences choice confidence (Andrews, 2013, 2016; Tsai & McGill, 2011; Yoon & Simonson, 2008), it is plausible that the positive influence of choice confidence on purchase readiness originates in the positive effects of diagnostic information. In other words, choice confidence may serve as a pathway via which information diagnosticity influences purchase readiness. Therefore, it is hypothesized that choice confidence serves as a mediator of the influence of information diagnosticity on purchase readiness.

H3: Choice confidence will serve as a mediator of the influence of information diagnosticity on purchase readiness.

Influence of Information Form on Choice Confidence

The greater meaning conveyed via verbal information may afford it an advantage over numeric information in choice tasks because these tasks require the consumer to evaluate product information (Viswanathan & Childers, 1996). Moreover, verbal information is deemed to be inherently more evaluative in nature (Scammon, 1977), which may aid consumers' task of comprehending presented information and determining its usefulness in supporting a choice decision. See Figure 1.

H4: Choice confidence will be higher when product information is presented in verbal form (vs. numeric form).

Moderation of the Influence of Information Diagnosticity by Information Form

When product information is low in diagnosticity and is not sufficiently diagnostic to support a choice decision, consumers can rely on their own subjective evaluations and inferences to arrive at a choice (Hammond, 1996). Reliance on subjective evaluations and inferences can offset the deficits of low diagnosticity information and enable consumers to experience high choice confidence despite a lack of high diagnosticity information (see Andrews (2013)). In the present research, it is proposed that the greater meaning that is inherent to verbal information (Viswanathan & Childers, 1996) will prove advantageous in choice contexts characterized by information that is low in diagnosticity because verbal information conveys more meaning than does numeric information (Stone & Schkade, 1991) and conveys that meaning more readily (O. Huber, 1980). More specifically, information form will moderate the influence of low diagnosticity information on choice confidence such that, when information diagnosticity is low, product information presented in verbal form will support higher choice confidence than will information presented in numeric form. See Figure 1.

H5: A moderation will be observed such that the influence of low diagnosticity information on choice confidence will be more positive when information is presented in verbal form than when it is presented in numeric form.

Moderation of the Influence of Information Diagnosticity by Level-of-Analysis

When consumers engage in subjective comprehension they evaluate the personal relevance of product features. Subjective comprehension is more likely to be active when information diagnosticity is low than when it is high (Hammond, 1996). Attribute-level information supports evaluation of specific product features, as opposed to holistic evaluations of the overall product (Filieri, 2015). Because attribute-level information is more

specific than summary-level information, it supports deeper understanding of how a choice alternative can help the consumer to achieve his or her desired end state (Graeff, 1996). The personal meaning of each attribute can be better understood when attribute-level information is provided. In contrast, summary-level information provides less data to support a means-end evaluation. This suggests that, when the choice task prompts subjective comprehension (e.g., when information is low in diagnosticity), attribute-level information will yield higher choice confidence than summary-level information. This leads to the following moderation hypothesis. See Figure 1.

H6: A moderation will be observed such more positive when information is presented at an attribute-level than when it is presented at a summary-level.

EXPERIMENT

Product ratings were deemed appropriate for this research because they are available for a wide variety of goods and services (including movies, restaurants, luggage, tires, hotels, produce, electronics, and flowers) and are often used by consumers. Product ratings are codified assessments of product quality that are expressed on a standardized scale (Hu, Koh, & Reddy, 2014). The ratings can be provided by experts, customers, or others and can reflect a single, or an average, evaluation and can be presented in summary or detail format (Filiari, 2015). More than two-thirds of American consumers responding to one study reported reviewing product ratings prior to making a purchase (PRNewswire, 2015). Thus, product ratings were anticipated to represent a form of information which study participants would be familiar. Given this focus, the present research examines verbal vs. numeric representations of equivalent evaluative ratings of products (i.e., “Best” vs. “95 out of 100”) rather than verbal vs. numeric modes of communication (i.e., “ninety-five” vs “95”).

A “Good-Better-Best” rating schema is employed in this research. Good-Better-Best is typically used as a price-lining approach in which the price and quality of the product increase as the rating improves (Joseph, 2000), but was adapted to this research context. The “Best” rating provides a natural reference point against which the other ratings can be compared. The Good-Better-Best schema is employed by several U.S. firms such as GoodGuide.com, Discount Tire Company, and Whole Foods Market. The Good-Better-Best verbal ratings can be converted into equivalent numeric information. This conversion was the focus of the Pretest.

Pretest

The objective of the pretest was to determine the numeric equivalent of the Good-Better-Best verbal ratings. Thirty-five people (19 female) responded to an online survey that was conducted via MechanicalTurk. Participants were asked to write three numbers (each between 1 and 100) that would mean the same as a rating of “GOOD”, a rating of “BETTER”, and a rating of “BEST”. The mode of the reported numeric equivalents of the verbal form product ratings, “GOOD”, “BETTER”, and “BEST”, were 70, 85, and 100, respectively. These figures were employed in the experiment.

Participants, Design, and Procedure

Two hundred forty-five people were recruited via MechanicalTurk to participate in an online study that was hosted on Qualtrics. The profile of the study participants is presented in Table 1.

Table 1
PROFILE OF PARTICIPANTS IN EXPERIMENT

Age		%	Education		%
	18-24	16.5		Some high school, no diploma	13.2
	25-34	41.4		High school diploma or GED equivalent	8.1
	35-44	25.6		Some college credit, no degree	44.7
	45-54	5.9		Trade / technical / vocational training	6.2
	55-64	8.8		Associate's degree	3.3
	65+	1.8		Bachelor's degree	2.9
				Master's degree	0.7
Gender				Professional degree	12.1
	Male	60.1		Doctorate	3.7
	Female	39.9		Other	5.1
Ethnicity			Annual		
	African American	4.8	Income	<\$25,000	47.2
	Asian American	17.2		\$25,001-35,000	16.3
	Alaska Native	0.4		\$35,001-50,000	16.6
	Caucasian	64.1		\$50,001-80,000	13.3
	Hispanic or Latino	5.5		\$80,001-100,000	2.9
	Middle Eastern	0.4		\$100,001-150,000	2.6
	Native American	1.5		>\$150,000	1.1
	Native Hawaiian	0.0			
	Other	6.2			

The study focused on selection of a suitcase from a set of three. The study employed a 2 (information form: verbal vs. numeric) x 2 (information format: summary vs. attribute) x 2 (information diagnosticity: high vs. low), 8-cell design.

Information was presented as characteristics of suitcases that were constant across conditions and summary- or attribute-level ratings of products. See Appendix. The featured attributes were selected from product listings on internet sites. Suitcases were selected as the focal product category because this product is comprised of several attributes that can be individually rated. Dimensions, weight, and number of wheels were held constant across conditions. Steps were taken to avoid confounds. To avoid confounds due to existing brand preference, the suitcases were identified only by number. To avoid confounds due to differences in perceptions of the acceptable price of a suitcase, a specific price was not mentioned but all cases were described as having the same price. To avoid problems that could arise from presentation of holistic ratings of “quality” or “durability”, these characteristics were omitted from the attribute list.

In the verbal information form condition, the rating information was conveyed via the words “Good”, “Better”, or “Best”. Following from the results of the pretest, in the numeric information form condition, the equivalent ratings displayed were 75, 85, and 100. In the summary-level condition, ratings represented an overall evaluation of the product. In the detail-level condition, ratings were provided for each of six product attributes and no

summary rating was included. As in prior research, information diagnosticity was operationalized as presentation of information indicating that one product was superior to the other two in the choice set (Amir & Levav, 2008; Yoon & Simonson, 2008). Similar to the procedures applied in prior research (Andrews, 2013, 2016), the superior choice alternative was rated better than the other choice alternatives on four of six product attributes in the detailed format. In the summary-level conditions, the superior alternative had the highest summary rating.

Upon signing into the study, participants were randomly assigned to a condition and presented information appropriate for that condition. Participants read, "Imagine that you are interested in purchasing a new suitcase. You visit a store that you like. You find three suitcases available for purchase." The graphic of the product information was displayed on the screen below these instructions. See Appendix. The choice prompt was presented below the graphic, "Which of the suitcases would you prefer to purchase?" No time limits were applied.

Following selection, participants responded to a series of scale items. Two measures of choice confidence were employed that were identical to those employed in Berger and Mitchell (1989) and were similar to those used in prior research (see Heitmann et al. (2007); and Petrocelli et al. (2007)). The measures were, "I felt absolutely certain I knew which suitcase to select," and "I felt completely confident I could select the best suitcase." Congruent with the procedures common to choice confidence research, participants reported choice confidence following their selection (Tsai & McGill, 2011).

Perceptions of the information were assessed via four items that measured sufficiency of the information for the choice task, usefulness of the information in helping the consumer to distinguish differences between choice alternatives, to understand the information, and to clarify his/her preferences. The measures were, "I did not have enough information about the suitcases", "I did not see any differences between the suitcases", "I was not sure what the information implied about the suitcases", and "The information helped me to decide what I wanted in a suitcase." The measures were reverse-coded for analysis. All items were measured using seven-point, Likert-type scales anchored by "(1) Strongly disagree" and "(7) Strongly agree." Purchase readiness was assessed via one 100-point scale item, "Given the information provided, how ready would you be to complete the purchase of a suitcase?" The item was anchored by "0=Not ready at all to purchase" and "100=Ready to purchase immediately." Participants moved a slider to indicate their readiness to purchase. Need for cognition (NFC) was measured with an existing scale (Cacioppo, Petty, & Kao, 1984) as a possible covariate because this variable captures individual differences in motivation to process information.

Experimental Results and Discussion

Reliability analysis revealed high internal consistency of the confidence measures (Cronbach's $\alpha = .96$). This high level of internal consistency is in line with those reported in prior research in which a similarly narrow construct, i.e., confidence in a specific choice decision, was assessed with a two-, or a three-item, scale (e.g., .93 in Berger and Mitchell (1989) and .96-.98 in Rajagopal and Montgomery (2011)). Thus, the measures were aggregated for analysis. ANCOVAs were conducted on the aggregated measure of confidence and the measures of information sufficiency, ability to discern differences, ability to infer/understand meaning, and preference clarification. Although need for cognition was included in the analysis as a covariate, its influence was not significant in this investigation. The significant effects are presented in Table 2.

Table 2. Summary Statistics from Experiment and Significant ANCOVA Effects

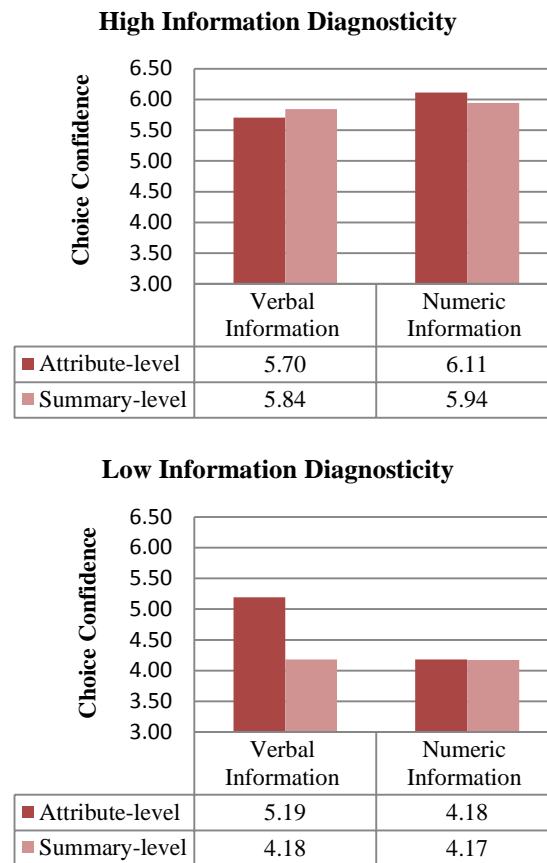
	Choice Confidence			Purchase Readiness		
	<u>n</u>	<u>mean</u>	<u>std. dev.</u>	<u>mean</u>	<u>std. dev.</u>	
High Information Diagnosticity	125	5.90	1.10	67.56	23.93	
Attribute-Level	62	5.91	1.13	72.66	18.94	
Verbal	30	5.70	1.27	68.57	21.23	
Numeric	32	6.11	0.97	76.50	15.89	
Summary-Level	63	5.89	1.08	62.54	27.22	
Verbal	32	5.84	1.19	57.03	27.39	
Numeric	31	5.94	0.96	68.23	26.28	
Low Information Diagnosticity	120	4.37	1.81	57.17	28.87	
Attribute-Level	60	4.56	1.81	65.70	26.68	
Verbal	29	5.19	1.39	76.31	25.26	
Numeric	31	3.97	1.97	55.77	26.16	
Summary-Level	60	4.17	1.82	48.65	28.66	
Verbal	31	4.18	1.74	49.13	26.96	
Numeric	29	4.17	1.93	48.14	30.85	
Attribute-Level	122	5.25	1.64	69.24	23.24	
Summary-Level	123	5.01	1.71	55.76	28.68	
Numeric	123	5.07	1.80	62.50	27.22	
Verbal	122	5.23	1.54	62.44	26.72	
Significant Effects from ANCOVA						
Variables	Choice Confidence	Purchase Readiness	Information Sufficiency	Ability to Discern Differences	Ability to Understand	Preference Clarity
	(p-values)					
Information Diag.	0.000	0.002	0.000	0.000	0.000	0.000
Level of Analysis	0.283	0.000	0.013	0.000	0.000	0.000
Information Form	0.339	0.858	0.514	0.134	0.442	0.734
InfoDiag * Form	0.022	0.002	0.000	0.457	0.352	0.120
InfoDiag * LOA	0.298	0.235	0.761	0.000	0.004	0.013
LOA * Form	0.236	0.079	0.415	0.414	0.439	0.074
InfoDiag * LOA * Form	0.042	0.201	0.851	0.139	0.137	0.900
Need for Cognition	0.807	0.632	0.894	0.867	0.906	0.677

Influence of Information Diagnosticity on Choice Confidence

The analysis revealed a significant main effect of information diagnosticity on choice confidence ($F(1, 236) = 64.62$, $p = .001$, $\eta^2 = .22$) such that high diagnosticity produced higher levels of choice confidence than low diagnosticity ($M_{\text{confidence}_{\text{HighDiag}}} = 5.9$, $M_{\text{confidence}_{\text{LowDiag}}} = 4.4$). This provides support for H1. Although the hypothesized main effect of information form was not observed (H_4 ; $p = .339$), a significant interaction of information diagnosticity and information form was revealed ($F(1, 236) = 5.32$, $p = .02$, $\eta^2 = .22$) that provided support for H5. When information diagnosticity was low, verbal information yielded higher choice confidence than did numeric information ($M_{\text{confidence}_{\text{verbal}}} = 4.7$, $M_{\text{confidence}_{\text{numeric}}} = 4.1$). Although no support was found for the hypothesized moderation of the information diagnosticity effect by LOA (H_6 ; $p = .236$), a significant three-way interaction between information diagnosticity, information form, and LOA on choice confidence was observed ($F(1, 236) = 4.18$, $p = .042$, $\eta^2 = .02$) that is worth examining. When information diagnosticity was high, neither the influence of information form ($p = .223$) nor that of LOA was significant ($p = .918$). However, when the information diagnosticity was low, the influence of information form and LOA produced a directional interaction effect ($F(1, 115) = 3.52$, $p = .063$, $\eta^2 = .03$). As shown in Figure 2, when

information diagnosticity was low, attribute-level information presented in verbal form yielded the highest level of choice confidence. This pattern of results is congruent with theory suggesting that verbal and attribute-level information provides greater meaning on which an evaluation can be made.

Figure 2
THREE-WAY INTERACTION EFFECT ON CHOICE CONFIDENCE



Mediated Moderation of the Influence of Info. Diagnosticity on Choice Confidence

H2 proposes that, in addition to information sufficiency, ability to understand information, ability to distinguish differences between the choice alternatives, and preference clarity would also mediate the influence of information diagnosticity on choice confidence. ANCOVA revealed significant influences of information diagnosticity on information sufficiency, ability to understand/infer meaning, ability to discern differences between alternatives, and preference clarity. See Table 2. However, the influence of information diagnosticity on information sufficiency was qualified by a significant two-way, information diagnosticity*information form, interaction. Additionally, an information diagnosticity*LOA interaction influenced the variables assessing discerning differences, understanding, and preference clarity. Given the significant two- and three-way interaction effects observed in the ANCOVA, Model 12 of the PROCESS (Hayes, 2012) was deemed most appropriate for the mediation analysis. This model assesses mediation of direct effects that are moderated by up to two variables. Model 12 allows for assessment of mediated moderation of two-way and three-way interactions. See Figure 3.

A review of the conditional indirect effects revealed significant mediation of the information diagnosticity*information form interaction on choice confidence when product information was presented in numeric form, but not when it was presented in verbal form. As shown in Table 3, the 95% bootstrap confidence interval information sufficiency does not contain zero for conditional indirect effects *a* and *b*. The analysis also revealed significant mediation of the information diagnosticity*LOA interaction on choice confidence by preference clarity when information was presented at summary-level, but not when it was presented at attribute-level. Note that the confidence interval for preference clarity does not contain zero for conditional indirect effects *e* and *g*. No significant mediation results were observed for the variables assessing ability to discern differences between alternatives or understand implications. (These variables are omitted from Table 3.) No mediation was observed of the indirect effect of the highest order interaction (i.e., the three-way interaction). This outcome was not surprising given that ANCOVA indicated only two-way interaction effects on the four potential mediating variables. The results from this analysis provided evidence that the influence of information diagnosticity on choice confidence was mediated by information sufficiency and preference clarity, as moderated by information form and LOA. Thus, partial support was provided for H2.

Figure 3
CONCEPTUAL MODEL OF MEDIATED MODERATION OF INFORMATION DIAGNOSTICITY
ON CHOICE CONFIDENCE

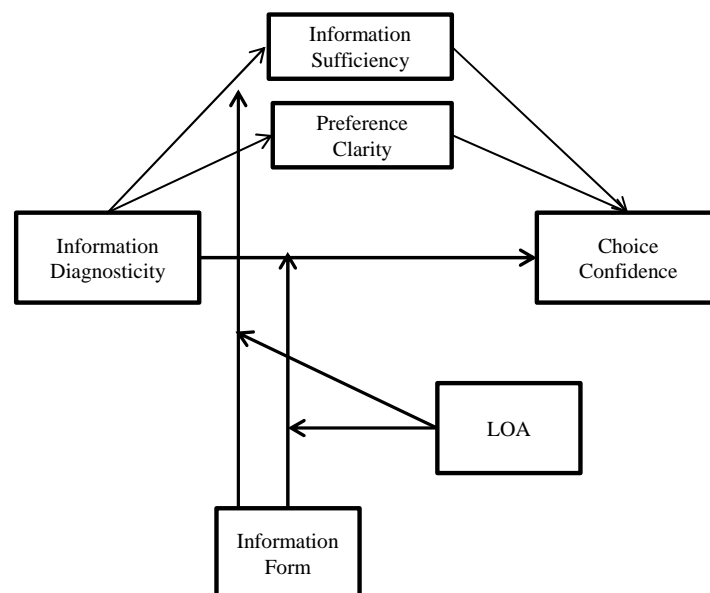


Table 3. Mediated Moderation Analyses Results

	<u>coeff.</u>	<u>se</u>	<u>t</u>				
Outcome: Choice Confidence							
constant	1.13	1.20	0.95				
Information Sufficiency	0.48	0.06	8.02	***			
Distinguish Differences	0.05	0.07	0.69				
Understand/Infer Meaning	0.08	0.06	1.26				
Preference Clarity	0.15	0.07	2.01	*			
Information Diagnosticity	0.43	0.72	0.59				
Information Form	1.25	0.71	1.76				
LOA	0.36	0.26	1.41				
InfoDiag*InfoForm	-0.88	0.46	-1.93	†			
InfoDiag*LOA	-0.38	0.16	-2.35	*			
InfoForm*LOA	-0.30	0.16	-1.81	†			
InfoDiag*InfoForm*LOA	0.26	0.10	2.49	*			
Need for Cognition	0.00	0.00	0.58				
Significant Conditional Indirect Effects of Information Diagnosticity on Choice Confidence							
	<u>InfoForm</u>	<u>LOA</u>	<u>Effect</u>	<u>SE</u>	<u>LLCI</u>	<u>ULCI</u>	
Information Sufficiency	numeric	summary	-0.74	0.23	-1.26	-0.34	a
	numeric	detail	-0.72	0.21	-1.18	-0.34	b
	verbal	summary	-0.07	0.21	-0.52	0.30	c
	verbal	detail	0.03	0.19	-0.33	0.41	d
Preference Clarity	numeric	summary	-0.25	0.15	-0.59	-0.01	e
	numeric	detail	-0.11	0.09	-0.39	0.00	f
	verbal	summary	-0.16	0.11	-0.46	-0.01	g
	verbal	detail	-0.01	0.06	-0.14	0.10	h
Indirect Effect of Highest Order Interaction			<u>Effect</u>	<u>SE</u>	<u>LLCI</u>	<u>ULCI</u>	
Information Sufficiency			0.01	0.08	-0.13	0.17	
Distinguish Differences			0.01	0.02	-0.01	0.08	
Understanding/Meaning			0.02	0.02	-0.01	0.10	
Preference Clarity			0.00	0.03	-0.04	0.07	
Outcome: Purchase Readiness							
	<u>coeff.</u>	<u>se</u>	<u>t</u>				
constant	18.93	15.95	1.89				
Choice Confidence	10.96	0.89	12.32	***			
Information Diagnosticity	-10.28	8.67	-1.19				
Information Form	-18.64	8.34	-2.24	*			
InfoDiag * Form	11.25	5.32	2.11	*			
Need for Cognition	0.08	0.09	0.89				
Index of Moderated Mediation			<u>Effect</u>	<u>SE</u>	<u>LLCI</u>	<u>ULCI</u>	
Choice Confidence			9.44	4.22	1.04	17.71	

***p<.001, **p<0.01, *p<.05, †p<.10

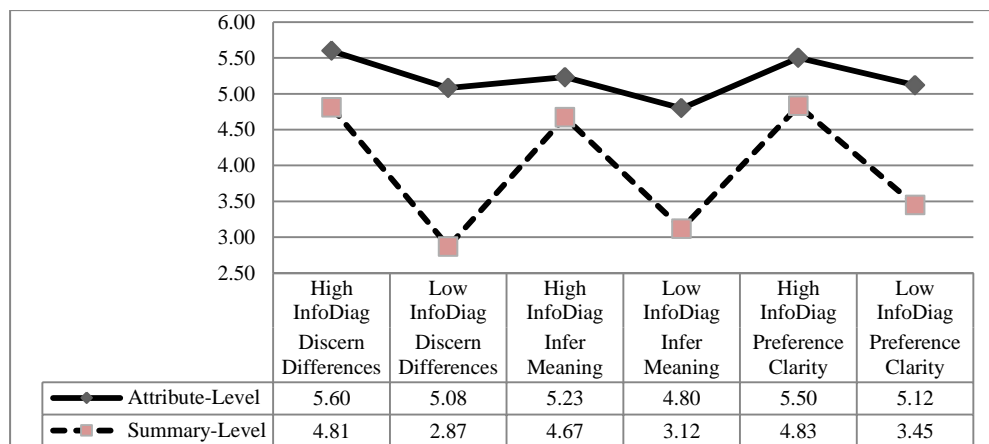
***p<.001, **p<0.01, *p <.05, †p<.10

Influences on Consumer Understanding and Preference Clarity

The ANCOVA revealed an interesting pattern of significant interaction effects on measures of consumer understanding and preference clarity that are worth noting. As shown in Table 2, while LOA significantly influenced all four measures of information sufficiency, understanding, and preference clarity, information form exerted no main effects on these measures. In other words, consumers' assessments of the sufficiency of the information for the choice decision, their understanding of the information, and its usefulness in clarifying choice preferences were influenced by whether the information was presented at a summary-level vs. an attribute-level, but not by whether the information was presented in verbal or

numeric form. These main effects were qualified by significant interaction effects. Diagnostic information presented in numeric form yielded higher perception of information sufficiency ($M=5.55$; $F(1, 236) = 12.8$, $p = .000$, $\eta^2 = .05$) than any other combination of characteristics (HighDiag-Verbal 4.68, LowDiag-Numeric 4.04, LowDiag-Verbal 4.64). In contrast, the remaining three measures of consumer understanding and preference clarity were not influenced by information form. However, they were affected by the interaction of information diagnosticity and LOA. As shown in Figure 4, these interaction effects suggest that highly diagnostic information supports greater understanding and preference clarity. (See the dotted line in Figure 4.) However, when information is low in diagnosticity, provision of attribute-level (as opposed to summary-level) information will produce greater levels of understanding and preference clarity. This supports the proposition that attribute-level data provides more specific information to support inference of personal meaning (Graeff, 1996) learning (Hu et al., 2014).

Figure 4
EFFECTS ON LEVEL OF ANALYSIS ON UNDERSTANDING AND PREFERENCE CLARITY



Mediated Moderation of the Influence of Information Diagnosticity on Purchase Readiness

ANCOVA revealed a significant direct effect of information diagnosticity on purchase readiness ($F(1, 236) = 9.94$, $p = .002$, $\eta^2 = .04$) such that high information diagnosticity led to higher levels of purchase readiness ($M_{\text{purchase readiness HighDiag}} = 67.6$, $M_{\text{purchase readiness LowDiag}} = 57.2$). The main effect was qualified by a significant interaction between information diagnosticity and information form ($F(1, 236) = 10.24$, $p = .002$, $\eta^2 = .04$). As depicted in Figure 5, when information diagnosticity was high, numeric information led to higher purchase readiness than did verbal information ($p = .02$). Interestingly, this pattern reversed when information diagnosticity was low. In that condition, verbal information form generated a higher level of purchase readiness than numeric information ($p = .03$). The observance of an interaction effect informs the planned mediation analysis. It suggests that the mediation analysis should focus on determining whether choice confidence is the path via which the information diagnosticity*information form interaction influences purchase readiness. Thus, a modified version of H3 was evaluated. See Figure 6.

To evaluate the hypothesis that choice confidence mediates the influence of the information diagnosticity*information form interaction on purchase readiness, a mediated moderation analysis was conducted using Model 8 of the PROCESS model (Hayes, 2012). Model 8 assesses mediation of an indirect effect modified by a single moderator. As shown in

Table 3, the bootstrapped confidence interval for the index of mediation (also the indirect effect of the highest order interaction in this case) excludes zero. This indicates that choice confidence mediates the influence of the information diagnosticity*information form on purchase readiness.

Figure 5
INFLUENCE OF INFORMATION DIAGNOSTICITY AND INFORMATION FORM ON PURCHASE READINESS

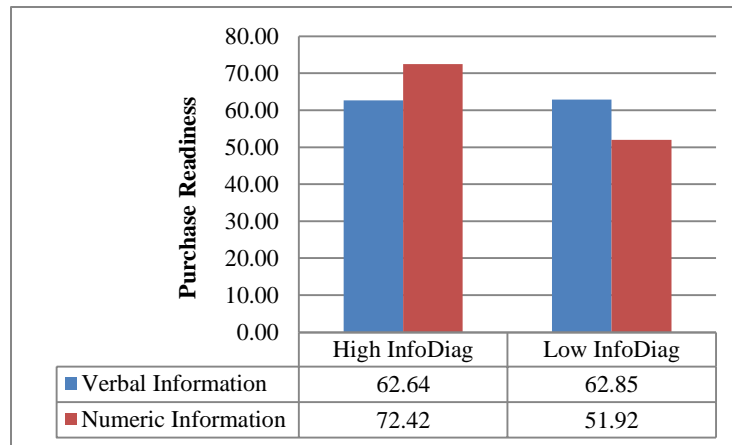
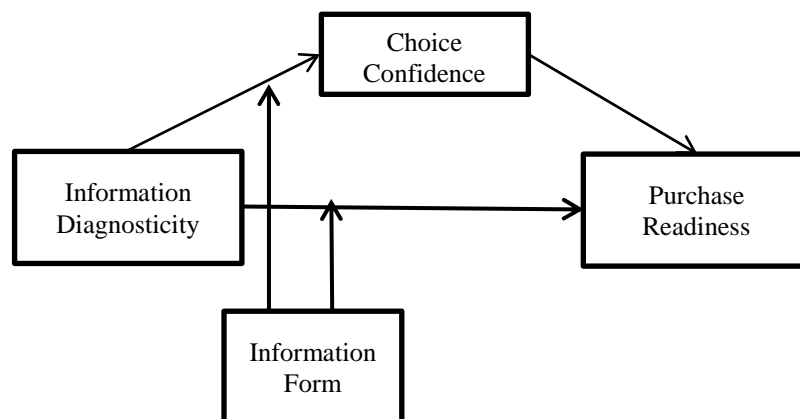


Figure 6
CONCEPTUAL MODEL OF REVISED MEDIATED MODERATION OF INFORMATION DIAGNOSTICITY ON PURCHASE READINESS



To determine whether the mediation was full or partial, Model 1 of Hayes' PROCESS model was used to examine the influence of the focal interaction excluding the mediator. The analysis revealed the significant interaction of indication of a superior alternative and information form that was previously mentioned and produced the coefficient for the interaction, 20.69. By subtracting the coefficient for the same interaction in the analysis of mediated moderation from the interaction coefficient without the influence of the mediator ($20.69 - 11.25$), the index of moderated-mediation of 9.44 is produced. This reveals that the full influence of the interaction (coefficient= 20.69) is partly mediated by choice confidence (Hayes, 2012).

SUMMARY, CONTRIBUTIONS, AND IMPLICATIONS OF THE RESEARCH

This research began with the premise that a deeper understanding of the drivers of choice confidence is needed because this important psychological experience serves as a gateway to a variety of consumer reactions of interest to marketers. The present research augments the growing body of investigations into the drivers and processes of choice confidence (Fazio & Zanna, 1978; Griffin & Tversky, 1992; Heitmann et al., 2007; Petrocelli et al., 2007; Rucker et al., 2014; Tsai & McGill, 2011). Literature indicates that external product information is a key building block of consumer choice confidence. However, the influence of product information on choice confidence has been shown to vary as a function of characteristics of the choice task (Andrews, 2016; Tsai & McGill, 2011) and of the consumer (Andrews, 2013). The present research adds a novel investigation of the moderating potential of two characteristics, not of the choice task or the consumer, but of the product information itself. Different combinations of information form (verbal vs. numeric) and information level-of-analysis (LOA; summary-level vs. detail-level) are commonly employed in consumer marketplaces. Results from this study demonstrate that variations these information characteristics produce significant changes in the influence of product information on choice confidence and purchase readiness. This holds implications for marketing theory and marketing practice.

Choice Confidence

The results from this research revealed moderation of the influence of diagnostic information on choice confidence by both information form and LOA. When diagnosticity of external product information was low, verbal (vs. numeric) information form yielded higher choice confidence. Additionally, when verbal information was presented at attribute-level (rather than summary-level), choice confidence approached that reported under conditions of high information diagnosticity. This suggests that highly diagnostic product information is sufficient, but not necessary, to produce higher levels of choice confidence. These findings also imply that the combination of greater meaning that is inherent to verbal information form (Stone & Schkade, 1991) and the greater specificity that characterizes attribute-level information (Graeff, 1996) can be combined to begin to overcome the confidence-depressing effects of poor quality information. From a managerial perspective, this finding supports a practice of presenting attribute-level product information in verbal form when no single product is clearly superior to others in the choice set. Notably, in this study the greater inherent meaning reported to characterize verbal form did not automatically produce higher choice confidence. Rather, the combination of verbal form and attribute-level specificity was needed. In other words, when the best choice is not readily apparent, presenting attribute-level information in words (rather than numbers) is more likely to produce higher levels of choice confidence.

The aforementioned interaction effects were observed when information diagnosticity was low, but not when it was high. This pattern of effects has emerged in prior research and is in line with theory asserting that high diagnosticity increases the importance of external information in a choice (Tsai & McGill, 2011) and reduces reliance on inference-making and intuitive reasoning (Hammond, 1996). Findings from this research supplement the growing body of evidence indicating that choice confidence can be supported by factors other than transparent justification for a single choice alternative. Higher levels of choice confidence can be produced by personality traits of individual consumers (Andrews, 2013), by aligning choice goals with fluency (Tsai & McGill, 2011), by increasing choice freedom (Andrews,

2016), and as indicated by the current research, by varying the form and level-of-analysis used to present information.

The mediated moderation analysis indicated that the influence of information diagnosticity on choice confidence was mediated by perception of information sufficiency when numeric form was employed, but not when verbal information was employed. The former result mirrors that reported previously for research that exclusively employed numeric information (Andrews, 2016). The latter result is a novel contribution to theory of choice confidence and supports the proposition that verbal and numeric information prompt differences in information processing. In this study, the difference in mediation effects may suggest that the greater specificity and concreteness of numeric information, versus verbal information (Viswanathan & Childers, 1996), is more useful for justifying or supporting a choice decision than the greater meaning imparted by verbal information.

The mediated moderation analysis also revealed mediation of the information diagnosticity*LOA interaction by preference clarity when information was presented at summary-level, but not when it was presented at attribute-level. This provides credence for a proposition that summary information can help consumers to distinguish between choice alternatives and arrive at a choice decision without effortful analyses (Viswanathan & Hastak, 2002).

Consumer Understanding and Preference Clarity

Lutz et al. (1983) asserts that the way in which product information is presented can alter consumer reactions. Analysis of the variables related to understanding and preference clarity (ability to distinguish differences between the alternatives, ability to understand the meaning of the information, preference clarity) provide some support for this proposition. When product information was presented at attribute-level (as opposed to summary-level), the influence of information diagnosticity on measures of consumer understanding and preference clarity was muted. In contrast, when summary-level information was provided, low diagnosticity information depressed both understanding and preference clarity. This result appears to be congruent with theory asserting that consumers are better able to extract personal meaning from attribute-level information than from summary-level information (Graeff, 1996). Such a result may manifest because attribute-level information provides a larger quantity of potential avenues via which the implications of a given choice can be understood. These findings are relevant to marketing management and marketing policy. While summary-level information simplifies the choice decision (Viswanathan & Hastak, 2002), it also produces lower levels of understanding and preference clarity. Lesser understanding and a lack of preference clarity result in a lower level of consumer decision-making savvy. A balance must be struck between consumers' desire for decision simplification and their need for knowledge.

Purchase Readiness

Analysis of the influence of information diagnosticity on purchase readiness revealed that information form moderates this influence. Specifically, numeric information form yielded higher purchase readiness when information diagnosticity was high than when information diagnosticity was low. Verbal information form did not moderate the influence of information diagnosticity on purchase readiness. This moderation effect may, again, reflect the greater specificity of numeric form that renders information easier to distinguish and encode than verbal information (Viswanathan & Childers, 1996). Thus, it may have been easier for consumers to identify the superior choice alternative when it was represented with a preponderance of "100" ratings (see the "High InfDiag/attribute/numeric" experimental

stimulus) than to discern the best alternative when ratings of “Best” had to be distinguished in a listing of words (see the “High InfDiag/attribute/verbal” experimental stimulus). Another possibility is that the greater specificity of numeric information played a different role. The numeric form experimental stimuli employed a maximum reference value of 100 points. With the exception of one condition (High InfDiag/summary/numeric), all choice alternatives in the numeric condition received an average rating of 85 points or better. This suggests that there were no truly bad choices in the set. Presentation of all reasonable options may have increased readiness to engage in a purchase action. This interaction effect offers an avenue for future research as it represents one instance in which high information diagnosticity did not mute the influence of auxiliary choice characteristics.

Mediated moderation analysis revealed that choice confidence partially mediates the joint influence of information diagnosticity and information form on purchase readiness. Moreover, this mediation accounted for almost one-half of the influence of information diagnosticity * information form on purchase readiness. This outcome is in line with the Hierarchy of Effects model of consumer response to advertising (Kotler & Armstrong, 2001; Lavidge & Steiner, 1961) that asserts an influence of choice conviction on purchase action. Interestingly, preference clarity only served as a mediator when information was presented at a summary-level. This finding suggests that summary-level information may help consumers to clarify their preferences, despite the inconsistent usefulness of summary-level information in developing consumer understanding.

LIMITATIONS AND FUTURE RESEARCH

The present research demonstrates that alterations in characteristics of product information can produce changes both choice confidence and purchase readiness. Additional research is needed to determine the extent to which these findings can be generalized. The experimental stimuli for this research relied on product rating information presented in all verbal or all numeric form to investigate the research question. However, some rating systems employ graphic images instead of words or numbers (e.g., 5-star ratings). Others combine numeric or graphic ratings with verbal reviews. The different forms of product rating systems provide avenues for future research. This research framework can be extended to include graphic images or different combinations of summary- and/or detail-level information. Another avenue for future research is examination of information characterized by greater quality variation. Previous research has revealed a negative correlation between purchase intentions and perceptions of variations in quality (Bao, Sheng, Bao, & Stewart, 2011). The present research relied on a three-level rating system that corresponded with ratings of “good”, “better”, and “best” or numeric equivalents. Examination of the influence of a broader range of ratings (e.g., “poor”, “average”, “good”, “better”, “best”) may prove to be a fruitful area of investigation.

This research employed a single form of information diagnosticity that was operationalized as information extremity. Diagnosticity can be operationalized in other ways including information quantity (Peterson & Pitz, 1988) and perceived validity (Griffin & Tversky, 1992). Future research could evaluate the influence of information form and LOA on different forms of diagnostic information.

Another opportunity for future research stems from the observed interaction of information diagnosticity and information form on purchase readiness. In prior research, high information diagnosticity tends to mute the effect of auxiliary factors in the choice context (Andrews, 2013, 2016; Tsai & McGill, 2011). (See Kruglanski, Webster, and Klem (1993) for an exception.) Findings from the present research revealed a stronger effect of numeric information when information diagnosticity was high (vs. low). Two possible explanations

for this pattern of effects were advanced. Future research should investigate this interaction to determine its boundary conditions and the psychological processes that underlie it.

This research revealed two mediators of the influence of information diagnosticity on choice confidence. It also provided empirical evidence that choice confidence partially mediates the influence of information diagnosticity on purchase readiness. Mediation analysis offers a wealth of possibilities for future research as it is important to understand how the information provided by external parties, such as marketing organizations or consumers, affects consumer confidence and readiness to act. Given the increasing level of consumer-to-consumer information exchange, identification of differences in the pathways as a function of the information provider may provide a rich vein of research that will augment theory and facilitate more efficacious design of marketing communications.

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Appendix

SAMPLE OF STIMULI USED IN EXPERIMENT




The suitcases are all priced the same. They have been rated (out of a possible 100 points).

Low InfDiag /
summary /
numeric

			
Attributes	Suitcase 1	Suitcase 2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	11 lbs.
Wheels	4	4	4
Ratings	85	85	85




The suitcases are all priced the same. They have been rated (Good, Better, or Best).

High InfDiag /
summary /
numeric

			
Attributes	Suitcase 1	Suitcase 2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	11 lbs.
Wheels	4	4	4
Ratings	Better	Better	Better

The suitcases are all priced the same. They have been rated (out of a possible 100 points).

High InfDiag /
attribute /
numeric




			
Attributes	Suitcase 1	Suitcase 2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	11 lbs.
Wheels	4	4	4
Ratings	70	85	100

The suitcases are all priced the same. They have been rated (out of a possible 100 points).




Low InfDiag /
attribute /
numeric

			
Attributes	Suitcase 1	Suitcase 2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	10 lbs.
Wheels	4	4	4
Ratings	Good	Better	Best




The suitcases are all priced the same. They have been rated (out of a possible 100 points) on the following attributes.

			
Attributes	Suitcase1	Suitcase 2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	11 lbs.
Wheels	4	4	4
Ratings			
Expandability	85	85	100
Fabric density	85	100	100
Handle system	70	85	85
Locking system	100	70	100
Interior	85	85	100
Zipper	85	85	85




The suitcases are all priced the same. They have been rated (Good, Better, or Best) on the following attributes.

			
Attributes	Suitcase1	Suitcase2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	11 lbs.
Wheels	4	4	4
Ratings			
Expandability	Better	Better	Best
Fabric density	Better	Best	Best
Handle system	Good	Better	Better
Locking system	Best	Good	Best
Interior	Better	Better	Best
Zipper	Better	Better	Better

The suitcases are all priced the same. They have been rated (out of a possible 100 points) on the following attributes.

			
Attributes	Suitcase 1	Suitcase 2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	11 lbs.
Wheels	4	4	4
Ratings			
Expandability	80	85	85
Fabric density	85	100	70
Handle system	70	85	85
Locking system	100	70	100
Interior	85	85	85
Zipper	85	85	85

The suitcases are all priced the same. They have been rated (Good, Better, or Best) on the following attributes.

			
Attributes	Suitcase1	Suitcase2	Suitcase 3
Dimensions	25" x 15" x 9.5"	25" x 15" x 9.5"	25" x 15" x 9.5"
Weight	11 lbs.	11 lbs.	11 lbs.
Wheels	4	4	4
Ratings			
Expandability	Better	Better	Better
Fabric density	Better	Best	Good
Handle system	Good	Better	Better
Locking system	Best	Good	Best
Interior	Better	Better	Better
Zipper	Better	Better	Better

THE INCORPORATION OF BRAND VERSATILITY IN THE ASSESSMENT OF BRAND VALUE: GENDER AND BRAND CATEGORY EXTENSION CONSIDERATIONS

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ABSTRACT

The importance of brand value and the components that constitute the concept have been a popular topic of discussion within the marketing literature for decades. While few can argue that a powerful brand can dramatically enhance a firm's marketing initiatives, a debate remains over the elements that constitute brand value. We propose that a brand's ability to successfully compete in brand categories outside its home category is a key element of its value. We argue that the more distant the category from a brand's home category in which a brand can successfully compete, the more versatile and subsequently valuable the brand.

This study illustrates the methodology by which a brand's versatility can be measured, and the quantified versatility of several prototypical American brands. Also explored is the impact of gender upon the acceptance of a brand's versatility among the same prototypical brands.

INTRODUCTION

Launched as a brand in the musical instruments category, Yamaha today is a well-known and a respected brand name for motorcycles, All Terrain Vehicles, portable power generators, watercrafts and propellers. Yamaha is as successfully positioned in the sensitive musical instrument product category comprising of pianos and electronics as it is in the rugged category comprising of ATVs. Kleenex, on the other hand has had to remain relatively closer to its primary product category of facial tissues. Kleenex is the "tissue" – that everyone uses; so much so, that almost all tissues are referred to as "Kleenex" even when it's a different brand altogether. Even a minor change in what constitutes its brand world could irreparably alienate the brand from its core consumer. Despite being the world's #1 facial tissue brand, Kleenex has zero degrees of freedom to leverage its brand strength in extending into even adjacent paper categories like diapers or hygiene. Kimberley Clark, the parent company, has instead developed new brands to accommodate those categories. Contrast this with Yamaha which straddles categories as widely separated as delicate classical music and rugged motorcycles. Yamaha is able to thrive in disparate contexts and generate consumer traction.

The brand characteristics of Yamaha render it versatile which according to Merriam Webster's dictionary, is the capacity "to embrace a variety of subjects, fields, or skills and the ability to turn with ease from one thing to another." Along these lines we define brand versatility as a brand's fluid capacity to appeal with ease to new demographic segments and enter new product categories.

The conventional branding sequence-segmenting the market, targeting a segment and sharply positioning the brand on the targeted segment-is based on the idea that human minds

are limited and easily confused (Trout, 2012) and, therefore a sharply positioned brand is likely to be perceived as the specialist and picked ahead of competition. It is likely to be readily associated with the product category and will enjoy prime mindshare which in turn translates into market share. Well-positioned brands usurp the generic category position and become prototypical brands so that consumers “Google” - not search online and read a book on a “Kindle” – not on an e-reader. In summary, exact positioning yields favorable response in the market place.

However, there is a dark side to this exactness. The spotlight incessantly shines on the prototypical brand that is boxed in squarely in its category with no wiggle room and no escape route. Certainly, the brand enjoys a position of pride within its category – the more narrowly defined the category the more favorable the position within the category. Nevertheless, sharply positioned brands are difficult to retool. How difficult is it for Facebook to succeed in the search engine market or conversely for Google+ to challenge Facebook’s position in the social media domain? Both these brands have their feet anchored in concrete, rendered immobile in their respective and exacting positions.

Yet the market reality is that brands are required more and more to translate their earned equities across category boundaries not the least because disruptive innovations have the potential to wipeout entire categories. The relentless onward march of the smartphones is wiping out the ‘dumb’ phones category with NOKIA right in the middle. The digital cameras stamped out the camera film obliterating KODAK. The digital cameras themselves face extinction with smartphones taking over the category threatening Nikon and Canon and with much bleaker prospects for Olympus. How is DELL, strongly positioned in the PC (desktop/laptops) market, to translate its enormous equity to the mobile devices category? Clearly this need is not limited to technology products. The focally positioned news magazine Newsweek ran its last print edition on December 31, 2012. Under these changing conditions a sharp position may be the proverbial Frankenstein’s monster for future growth.

Astute brands endeavor for infusion of attributes that are more broad-based. This allows for migration to adjacent product categories. Analogous to the marketing myopia (Levitt, 1960) concept one may think of perceptual myopia. Brands narrowly perceived within a product category are more susceptible to die with the category in comparison with brands that are perceived along a benefit dimension- the benefit survives extinction of the specific mechanism leading to the benefit. For example, Newsweek is now positioned as a brand that “objectively reports the news,” not necessarily in print. This is not unlike Levitt’s (1960) prescription, that the railroad industry, to avoid marketing myopia, should have thought of itself as being in the broader passenger transportation industry. A classic example of brand *versatility* is the Virgin brand. According to Richard Branson, “A brand name that is known internationally for innovation, quality and a sense of fun is what we have always aspired to with Virgin.” Evidently, this is a versatile positioning statement as it provides multiple degrees of freedom to the brand. Innovation, quality and fun are abstract benefits that can immediately provide category independence.

Along these lines, we propose a new construct--*brand versatility*--as a brand’s ability to extend its appeal to perceptually distant categories beyond its home category. For instance, the home category for Ford and Coca-Cola would be the automobile category and the cold beverage category respectively. Insofar as a brand is an intangible asset businesses should be keen on leveraging it for future revenue streams. A brand extension requires examination of two questions: 1) whether such an extension will alienate the current franchise; and 2) whether such an extension can create attraction in the target category? However, past literature has predominantly focused on the first question – one of dilution of the core brand value (Keller & Aaker, 1992; Lane & Jacobson, 1997; Loken & John, 1993; Milberg, Park, &

McCarthy, 1997). An equal and important question is the feasibility question, i.e. whether the brand is versatile enough to generate preference and purchase in distal categories.

We operationalize brand *versatility* as the rate of degradation in purchase intention with relation to the perceptual distance from the home category. The higher the rate of degradation for a brand, the lower its *versatility*. This study, therefore, considers the *versatility* of brands across categories both near to, and far from, the brands' respective home categories.

RQ1 Prototypical brands will exhibit less brand versatility as the perceptual distance between two product categories (home category and extension category) increases.

While the purchasing power of women and their role in purchase decisions continues to grow, any gender differences regarding brand perceptions is largely unknown. Globally, women control well over \$20 trillion in consumer spending and earn well over \$13 trillion annually (Silverstein and Sayre 2009). Today, 81% of women state that they are the primary person running their household and that they make 85% of their household purchasing decisions ("The Female Economy" 2014). And the growing importance of female purchasing power is not limited to product categories typically associated with women. A 2011 study by Nielsen Media Research found that women represent 66% of PC purchases, 60% of clothing expenditures, 60% of new car purchases, 90% of food purchases, and make 80% of family vacation decisions (Nielsen 2011). However, much is yet to be learned regarding gender differences and brand perceptions outside of home brand categories.

What has been noted in the literature is that women exhibit stronger brand commitment than do men (Tifferet & Herstein, 2012). The researchers argue that this finding is consistent with the evolutionary perspective that women are traditionally more risk averse (Byrnes, et al., 1999) and brand commitment is a form of risk aversion. Knowing what the brand represents and buying into the brand promise is tantamount to maintaining brand commitment. Therefore, we expect to see that gender will matter for accepting a brand's versatility, with women being less accepting than men when it comes to brands moving away from their home categories:

RQ2 Gender has an effect on brand perceptions, whereby females will be less willing to accept a brand's versatility.

STUDY 1

The first study developed an objective measure for the perceptual distances. Four hundred and fifty (450) undergraduate students from a large, public university in the United States were asked to complete an online survey that presented them with 20 pairs (randomly drawn) of product/service categories. The product labels were developed based on those exemplified by top brands in some of the focal categories as determined by a comparable group of students (Krishnan et al., 2013). Participants were asked to assess the extent of similarity between the two categories. We used a "slider" tool that allowed participants to move the slider between the two anchor statements: "Not at All Similar" = 0 to "Very similar" = 100 (see Figure 1). A total of 391 useable responses were gathered, which is a response rate of 87%. Preliminary results suggest that there are some categories that are indeed more similar than others. Table 1 lists the category pairs and the average values of their similarities. The 100's complement of similarity (Perceptual distance = 100- similarity) was operationalized as a measure of the perceptual distance to the target category from the respective home categories. Thus, more similar the two categories, the closer the perceptual distance between them.

Figure 1
EXAMPLE OF SLIDER TOOL FOR LEVEL OF PRODUCT CATEGORIES' SIMILARITY

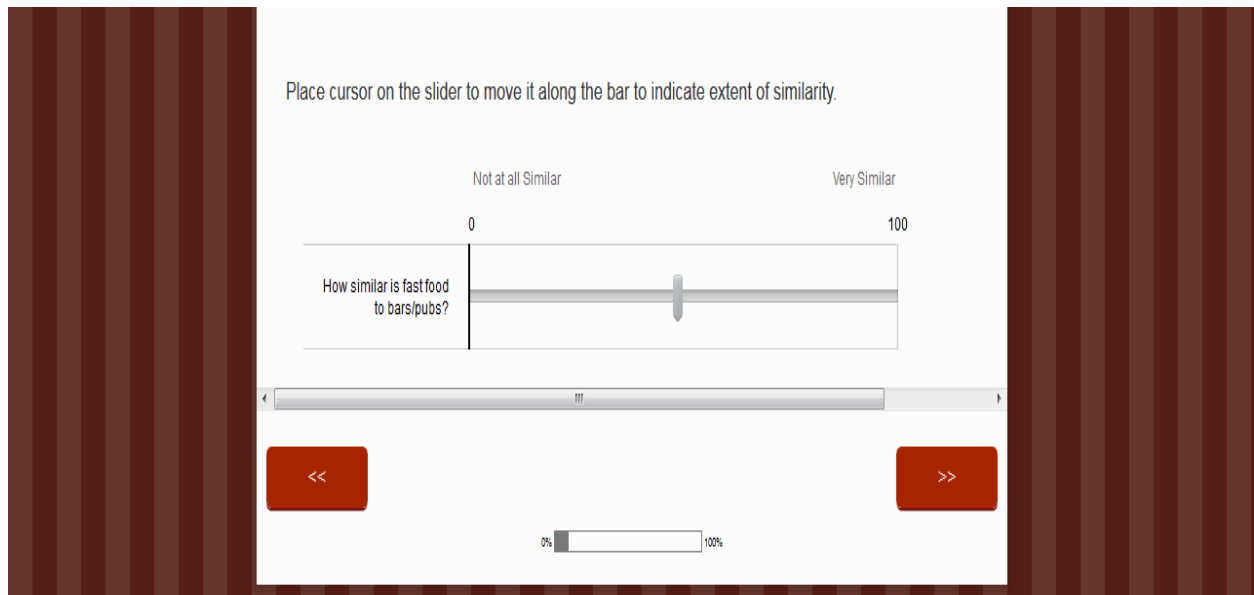


Table 1
PERCEPTUAL DISTANCES FROM BRAND HOME CATEGORY STUDY 1

Home Category*	Target categories*	Average Similarity Rating**	Perceptual distance from home category = 100 - Average Similarity Rating
Athletic shoes	Athletic wear	90.46	9.54
	Fitness centers	73.62	26.38
	Home exercise equipment	64.02	35.98
	Health Food Store	59.4	40.6
	Diet Supplements	48.26	51.74
Electronics	Home gaming devices	83.62	16.38
	Technology training services	73.51	26.49
	Home security	69.99	30.01
	Office stationery	37.45	62.55
	Office attire	28.23	71.77
Cold beverage	Alcoholic beverages	52.99	47.01
	Ice cream	46.96	53.04
	Coffee	30.75	69.25
	Chocolates	25.83	74.17
	Biscuits	13.36	86.64
Fast food	Vending machines	68.27	31.73
	Frozen food	64.97	35.03
	Bars/Pubs	49.97	50.03
	Catering services	48.29	51.71
	Full service restaurants	40.31	59.69

*Category pairs were randomly presented to participants; the list shown in the table has been sorted highest to lowest rating.

**The higher the rating, the more similar are the two categories.

STUDY 2

The second study explored brand versatility for four popular brands - Nike (Home category: Athletic shoes), Apple (Home category: Electronics), Coca-Cola (Home category: Cold beverage), and McDonald's (Home category: Fast food). Two hundred and twenty four (224) upper division undergraduate students (Male =159, Female = 65) from a large, public university in the United States participated in the study for extra credit. Each participant was presented with five hypothetical offers each from Nike, Apple, Coca-Cola, and McDonald's in categories at different perceptual distances from their respective home categories as elicited from study 1. Participants rated (Figure 2) purchase intention, for twenty (5X4 = 20) offers. The order of presentation of the twenty offers was randomized for each participant. The dependent variable (Purchase intention) was operationalized with a 3-item composite measure ranging from 0 (minimum) to 21 (maximum) combining: 1) I am interested in knowing more about this offering; 2) I am interested in trying this offering; and 3) I am interested in buying this offering; each on a 7-point scale (1-Strongly disagree—7-Strongly agree). Purchase intention was computed by summing the ratings across the three items. Participants did not rate purchase intention for the brands in their home categories which was assumed to be maximal, i.e., 21.

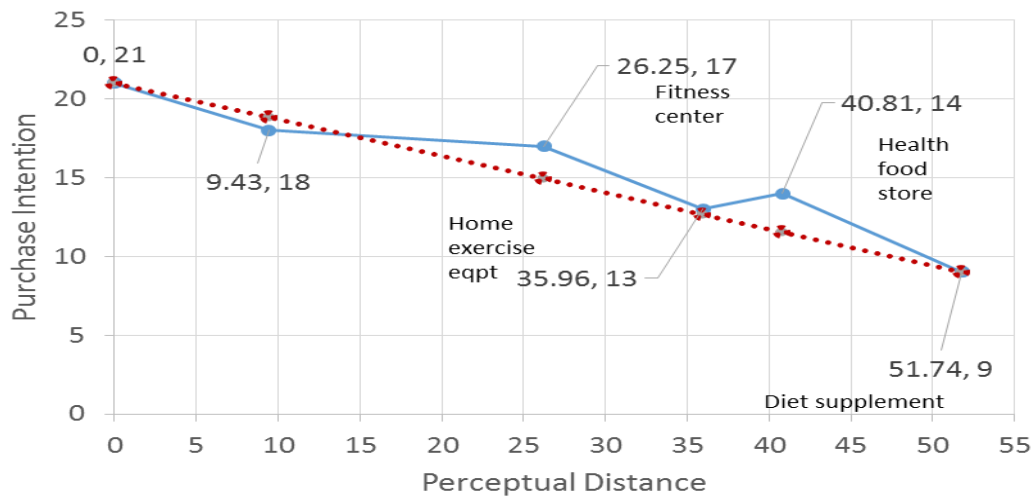
Figure 2
EXAMPLE OF SCALE USED TO ASSESS PARTICIPANT AFFINITY TO NEW BRANDED OFFERING

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I am interested in knowing more about this offering.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in trying this offering.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in buying this offering.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

>>

Brand *versatility* was computed for each brand and each respondent by computing the magnitude of the rate of degradation of the purchase intention at the 50th percentile. Figure 3 shows Nike's purchase intention profile (solid line) for a typical respondent. Brand *versatility*, the magnitude of the slope of the dotted line, is the rate of degradation **at the 50th percentile perceptual distance** for Nike as rated by this respondent and is equal to $(21 - 9)/51.74 = .232$.

Figure 3
NIKE PURCHASE INTENTION RATINGS OF A TYPICAL RESPONDENT



ANALYSIS AND RESULTS

To test RQ1, RQ2, we conducted a repeated-measures ANOVA on brand *versatility* with brand as a within subjects variable and gender as the between subjects variable. Results show a significant effect of the brand on brand *versatility* ($F(2.66, 589.70) = 30.79, p < .000$). Results also show a significant effect of gender ($F(1, 222) = 9.23, p < .003$) with women affording lesser versatility (Means Men = .153 vs. women = .181) and a significant brand by gender interaction effect ($F(2.66, 589.70) = 2.80, p < .01$). Follow-up pairwise brand versatility comparisons with Bonferroni correction tests were significant except between McDonald's and Nike brands (Table -2). Further, follow-up brand wise comparisons between genders were significant for McDonald's and Nike brands but not for Apple and Coca-Cola (Table -3).

Table 2
BRAND VERSATILITY DIFFERENCES AMONG BRANDS STUDY 2

Respondent category	Brand	Nike	Apple	Coca-Cola	McDonald's	Average
All (N=224)	Brand Versatility (Lower implies greater versatility)	.195	.193	.119	.200	.161
Pairwise Comparisons: Significant difference?		*-----no-----* *---yes---* *-----yes-----* *-----yes---* *----yes-----* *-----yes-----*				
Men (N=159)	Brand Versatility (Lower implies greater versatility)	.177	.146	.117	.172	.153
Women (N=65)	Brand Versatility (Lower implies greater versatility)	.212	.161	.122	.228	.181

Table 3
BRAND VERSATILITY DIFFERENCES ACROSS GENDER FOR EACH BRAND STUDY 2

Brand	Men	Women	t-value	Significant?
Nike	.177	.212	-2.35	<.02*
Apple	.146	.161	-1.3	>.2 ns
Coca-Cola	.117	.122	-.35	>.74 ns.
McDonald's	.172	.228	-3.14	.002*

CONCLUSION

While the importance of a brand's value is growing among both academics and practitioners alike, methods by which a brand's value is ascertained can vary significantly among organizations responsible for estimating brand values for specific firms. Millward Brown's "BrandZ" calculations differ significantly from those of Interbrand, yet neither take into account a particular brand's versatility, or its ability to compete successfully in categories removed from its home, or base, category. Our study has found that even among some of the most valued brands, brand versatility can vary significantly. A brand such as Nike is significantly less versatile than is Coca-Cola, in spite of the fact that Nike has a higher Brand Recall Index (Krishnan et al., 2014).

The ability of a brand to expand to and successfully compete in categories outside of its base, or home category cannot be undervalued. Watching powerful brands such as Google experiment with new product development in categories as far removed as automobiles are from search engines brings immediate question as to this powerful, and valuable, brand's inherent versatility. It is in all likelihood that Google's lack of brand versatility is the reason behind Alphabet Inc. and future ventures outside of Google's home search engine brand category. Watching Apple succeed with extensions ranging from computers to mobile phones speaks highly of not only the Apple's technical capabilities, but its brand versatility as well. Microsoft, on the other hand, a firm that is more than technically competent, appears far less capable of expanding far beyond its home, or base category, of operating systems and software.

As markets expand and contract, a brand's versatility grows in importance. Dominant brands in large, but shrinking, markets may have less inherent value than do brands with a smaller footprint in even smaller markets, depending upon each brand's versatility. Having a thorough understanding of a brand's versatility is, therefore, equally important as having a firm grasp of a brand's value. Whereas a brand's strength is a measure of its current value its versatility is a measure of its future sustainable value.

We also learned that women afford less versatility to brands than do men. Women appear to be more engaged with their brands, and therefore, offer them less of an opportunity to venture from the brand's base category. Brand engagement is different for men versus women and therefore needs careful consideration (Crosby & Darroch, 2014). As the role of women continues to increase as the primary decision maker in the purchase of a wider variety of products, it is imperative to take into consideration the versatility allowed by this extremely important segment of the market. Firms may even consider the development of gender specific brands within the same category to allow for future expansion into dissimilar categories. In any respect, it is important to understand not only the versatility of one's brand, but the versatility within each gender (Tifferet & Herstein, 2012). Even if men represent the demographic of the primary or secondary target market, firms must be aware that women may be doing much, if not most, of the shopping and decision making for

product purchases, and therefore less brand versatility may be available. In any respect, a solid understanding of both the inherent versatility of a firm's brand, and the role that women play in the brand's purchase, is imperative if a firm is to sustain growth in today's volatile markets.

As the importance of brand versatility garners acceptance it is also critical that further research be conducted to better explain why some brands are more versatile than others and why women appear less forgiving than men with regard to versatility. A host of mediating factors can be involved with each aspect of versatility and a better understanding of each would certainly enhance the branding initiatives of virtually any firm, and particularly those involved in the consumer markets where women are more apt to be making purchase decisions for products that will ultimately be used by targeted men.

But regardless of the gender of the target market, it is of vital importance that a firm has a thorough understanding of the versatility of its brands. Whether a firm is faced with growth opportunities in new market categories or shrinking base categories, the versatility of its brands will be key to the future of the firm.

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COUNTRY OF ORIGIN NON-FIT: WHEN COUNTRY OF ORIGIN NON-FIT ENHANCES CONSUMER EVALUATIONS

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ABSTRACT

Country of Origin (COO) fit refers to the consistency between a brand's origin and the country where that brand's products are manufactured. Recent research demonstrates that a lack of COO fit, as occurs when a brand chooses to manufacture a product outside of its brand origin, can reduce consumers' product evaluations when the brand origin and country of manufacture are perceived as equivalent by consumers (Johnson, Tian, & Lee 2016). This research expands upon that prior research and shows that – under some circumstances – a lack of COO fit may instead enhance product evaluations. Through an experimental study using US consumers, we demonstrate that the lack of COO fit can enhance customer evaluations when a brand based on a country with a poor reputation within its product category manufactures a product in a country with a more favorable reputation.

INTRODUCTION

When consumers evaluate new products, one of the most important branding elements that they consider relates to the country where the product was created, referred to as country of origin (Johansson et al., 1985; Kumara & Canhua, 2010). Realizing the importance of country of origin cues on consumer decision making, managers frequently highlight this information on packaging and in marketing communications. For instance, since Germany is respected for automotive excellence and Belgium is known for exceptional chocolate, brands often emphasize links to these countries when the links can be established. Likewise, experience with a country or countries can influence consumer preferences based on the location where a product originates, as with wine from specific regions such as Europe (Geringer, Patterson, & Forsythe, 2014). Because of the significance consumers assign to these country cues, considerable research has established the importance of country of origin effects on consumers' product evaluations (e.g., Bilkey & Nes, 1982; Maheswaran, 1994; Peterson & Jolibert, 1995; Piron, 2000; Insch & McBride, 2004) and how much they are willing to pay for a given product. (Koschate-Fischer, Diamantopoulos, & Oldenkotte, 2012). Because corporations have become increasingly multinational, information related to a product's country of origin has become ever more complicated: Country of Origin (COO) may refer to brand origin (Samiee, Shimp, & Sharma, 2005), country of manufacture (Nagashima, 1970; White & Cundiff, 1978), or may represent a value-creation process that takes place separately in multiple countries (Chao, 1993; Hamzaoui & Merunka, 2006).

Given that COO is a multi-dimensional construct when multiple countries are involved (e.g., Chao, 1993; Insch & McBride, 2004; Hamzaoui & Merunka, 2006; Hamzaoui, Merunka, & Bartikowski, 2011), research suggests that brand managers benefit when value-creating activities align to the strengths of different countries within a supply chain; different countries can be capable of distinct dimensions such as manufacturing or branding (e.g., Chao, 1993; Hamzaoui et al., 2011). Thus, the alignment (versus non-alignment) between the

skills of a country and its location within the supply chain can favorably (versus unfavorably) influence consumers' product evaluations (Tse & Gorn, 1993; Chinen, Enomoto & Costley, 2000). Germane to this research, even when two countries have equally favorable capabilities, consumers' evaluations of a product may decrease if there is a mismatch between a product's brand origin and country of manufacture (Johnson, Tian, & Lee 2016). Thus, existing research has established that a lack of COO fit between a product's brand origin and country of manufacture can – all else being equal – negatively affect product evaluations. In particular, if a brand manager chooses to manufacture a product outside of the brand origin, consumers' product evaluations may fall if: a) the country of manufacture has an equally favorable reputation compared to the brand origin, or b) the country of manufacture has a less favorable reputation compared to the brand origin. But what if a brand manager is able to choose a country of manufacture that offers an improved COO reputation relative to the brand origin? In other words, under which circumstances can a lack of COO fit enhance product evaluations? This research attempts to answer this question.

Specifically, if a brand originates in a country with a poor reputation, its new product may be evaluated more favorably by consumers if the product is manufactured in a country that has a more favorable reputation than it would be if it were manufactured in its own country. In the following sections, the literature on country of origin is reviewed and a hypothesis for testing is developed. To test the proposed hypothesis, an experimental setting is developed to test whether companies can compensate for a lack of COO fit if they choose to add value to their supply chain by including a country with a stronger reputation within their value-creation process. As a conclusion, suggestions for brand managers are provided.

LITERATURE REVIEW AND HYPOTHESES

Country of origin is perceived as a highly determinative cue that consumers use to make product evaluations (Schooler, 1965; Johansson, Douglas, & Nonaka, 1985; Chao, 1993; Inch & McBride, 2004; Hamzaoui & Merunka, 2006; Usunier & Cestre, 2007) and it influences which products consumers are willing to purchase and the amount that they are willing to pay for them (Koschate-Fischer, Diamantopoulos, & Oldenkotte 2012). Moreover, COO information is used for evaluations and decision making, especially when consumers are not familiar with a brand (Schaefer, 1997) or a product category (Johansson et al., 1985) and when they evaluate a less favorable brand (Jo, 2005). For instance, a recent study of over 48,000 consumers in G8 (now known as the Group of Seven) countries revealed that the US, Japan, and Germany are among those countries that benefit from an above average reputation overall, while countries including Mexico, India, and Ukraine are viewed as below average (Reputation Institute, 2015).

While some studies continue to conceptualize COO as a uni-dimensional construct (Piron, 2000), extensive research treats the construct as multi-dimensional (Chao, 1993; Inch & McBride, 2004; Hamzaoui & Merunka, 2006; Hamzaoui, Merunka, & Bartikowski, 2011). The multi-dimensional nature of COO is important to study because the managerial motivations to develop products in multiple countries are increasing. Companies often choose to manufacture their products in countries other than their brand origin simply because it is cheaper to do so (Hamzaoui & Merunka, 2006). According to the Boston Consulting Group, although the cost competitiveness in the US and UK, for example, have improved, lower net costs associated with labor, electricity, and natural gas in countries such as Mexico, Indonesia, India, and China can lead to savings exceeding 30% (BCG Perspectives, 2014). Wages in India and Indonesia for example, are only a fraction of the wages in developed economies like the US and UK (BCG Perspectives, 2014). The decision to separate these value-creating activities, however, represents a separation of the value-creation activities within the supply

chain and can affect consumers' evaluations of new products. Prior research has discovered different COO dimensions that affect product evaluations including brand origin and country of design (Batra, Ramaswamy, Alden, Steenkamp, & Ramachander, 2000; Brodowsky, 1998; Hamzaoui & Merunka, 2006; Samiee et al., 2005), and country of manufacture or assembly (Brodowsky, 1998; Hamzaoui et al., 2011; Nagashima, 1970). Subsequently, most research emphasizes the influence of brand origin and country of manufacture (Chao, 1993) on various consumer responses: customer preference (Chinen, Enomoto, & Costley, 2000), and product evaluations (Hamzaoui et al., 2011; Tse & Gorn, 1993; Johnson, Tian, & Lee, 2016). To extend the findings of existing research, this investigation attempts to focus on how incompatibilities compared with synergies of multiple COO dimensions affect consumers' product evaluations.

Relevant to this research, COO fit has been defined as consistency between a product's brand origin and country of manufacture; that is, when a product's brand origin and country of manufacture are the same, there is COO fit (Johnson, Tian, & Lee, 2016). On the contrary, lack of fit displays an inconsistency that a product is designed and manufactured in different countries. Johnson et al. (2016) found that the incongruence between brand origin and country of manufacture complicates and adversely affects consumers' product evaluations, suggesting that separating the brand origin and country of manufacture may reduce product evaluations in situations where all else is equal. But often, all else is not equal –and most often, brand managers opt to manufacture their products in a country with a lower reputation than the brand origin. Specifically, Tse and Gorn (1993) demonstrated that if a brand with a reputation is described as manufacturing its products in a developing country with a less favorable image, consumers' product evaluations are rated lower than if the brand manufactures its products in its own brand origin.

Chinen, Enomoto, and Costley (2000) compared perceived manufacturing capabilities among countries and found that Japanese cars manufactured in the US received higher consumer ratings relative to those manufactured in Mexico – an effect resulting from the higher perceived manufacturing capability of the US compared with Mexico. Despite the studies that explore this construct, research has not explicitly compared the situation in which the brand origin and country of manufacture are the same (representing COO fit versus the case in which the product is manufactured in a country with a more favorable reputation (representing a lack of COO fit but an improvement in manufacturing potential). For instance, if Mexico represents a brand origin, the choice to manufacture its product in Mexico is COO fit, which represents a positive decision based on consumers' ability to understand the company's decision, since it is easy to understand why a Mexican brand would manufacture in Mexico. The same company could, on the other hand, choose to manufacture in a country with a more favorable reputation in the same category – like Japan, the U.S., or Germany. Based on extant research, it is unclear whether consumers' evaluations would be more favorable in the situation with COO fit or in the situation where a brand benefits from the more favorable reputation associated with a non-fitting country of manufacture.

Intuitively, one might think that this sort of situation is uncommon, but this type of positive non-fit occurs regularly. For example, Tata Group is a multi-national conglomerate headquartered in Mumbai, India, and owns more than 100 separate companies. In addition to manufacturing many of its products in India, it also manufactures products in many countries outside of its brand origin including: automobiles (Land Rover and Jaguar automobiles are manufactured in the UK), steel (Ireland), and beverages (countries include: Czech Republic, United Kingdom, Russia, and the US) (Tata.com, 2016; tataglobalbeverages.com). As India ranks quite low based on consumers' perceptions of COO (Reputation Institute, 2015), many of the countries in which Tata has manufacturing facilities, such as the U.K., Ireland, and the Czech Republic, are perceived more favorably than the company's brand origin.

Although prior research suggests that firms can improve consumers' evaluations by aligning the value creation process with the strengths of different countries, it is not clear if this benefit accrues relative to a situation when COO fit is lacking. Hamzaoui et al. (2011), for instance, found that some countries have a reputation for developing strong brands while others are perceived as more capable at manufacturing. Johnson, Tian, and Lee (2016) found that a lack of fit may reduce product evaluations since a lack of fit reduces processing fluency (i.e. consumers question the company's motives), but this effect disappeared for consumers with a high tolerance for ambiguity who were able to reconcile the lack of fluency associated with a lack of fit. In particular, the authors found that when consumers are comfortable with inconsistency, the negative effects associated with a lack of COO fit go away. Likewise, it is speculated herein that consumers will be comfortable with the disfluency associated with a lack of fit in a situation where the lack of fit can provide clear benefits relative to the product that they are considering. In other words, manufacturing a product in a country with a better reputation has obvious benefits to consumers and – thus – will have a positive effect on consumers' evaluations. Hence, if firms are able to develop COO synergies when they manufacture their product(s) in a country with a better reputation within their product category, then a lack of COO fit may become beneficial.

H1 If a brand originating in a country with a poor reputation within its product category chooses to manufacture its product in a country with a more favorable reputation within this product category, consumers' product evaluations will be more favorable than if the product were manufactured in its own country.

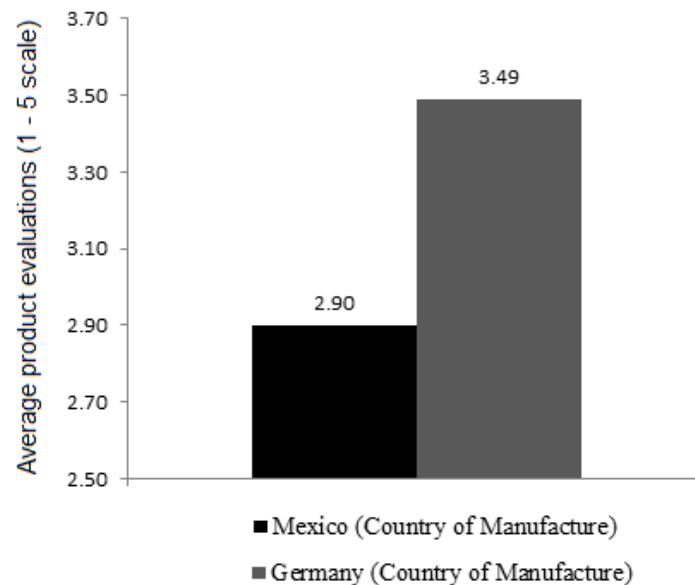
METHOD

This study employs a 1 (brand origin: Mexico) x 2 (country of manufacture: Mexico, Germany) between subjects full factorial experimental design. To be consistent with previous research on the topic, the manipulations were similar to those used by Johnson, Tian, and Lee (2016). Participants were recruited using an online panel of U.S. consumers using Amazon's MTurk. Amazon MTurk provides a platform that allows for payment to individuals who complete tasks online such as academic studies. MTurk and other online recruitment platforms provide a sample that largely mimics the population and is more consistent with the U.S. population than convenience samples (Berinsky, Huber, & Lenz, 2012). A total of 56 participants participated in this study, which was approximately 5-8 minutes in length, in exchange for payment. Participants who were assigned to either of the conditions read a hypothetical scenario that informed them that they were considering purchasing a cellular phone produced by the WR7 brand (a fictional brand). In the scenario, participants were informed that the WR7 brand was based in Mexico and that the phone was either manufactured in the same country (Mexico), representing COO Fit, or in another country with a more favorable reputation for making cellular phones (Germany), representing a lack of COO fit. As detailed in a recent Fortune article, Germany has a much more favorable reputation than does Mexico (Reputation Institute, 2015). Participants were asked to recall the brand origin and country of manufacture in order to ensure that they understood the manipulation. Finally, after reading the scenario and completing the manipulation check, participants completed a 6-item product evaluation scale ("Overall, what is your opinion of the cell phone produced by the WR7 brand?" ("1= Very bad / 5 = Very good," "1 = Very unfavorable / 5 = Very favorable," "1 = Unpleasant / 5 = Pleasant," "1= Not worth owning / 5 = Worth owning," "1= Awful / 5 = Great," "1 = Undesirable / 5= Desirable", Batra & Ray, 1986, $\alpha = .94$).

RESULTS

All 56 participants recalled the correct brand origin and country of manufacture information and were included within the study. ANOVA revealed that participants rated a product with a brand based in Mexico significantly more favorably when it was manufactured in Germany (a country with a better reputation within the domain of electronics) as determined by the average of the 6-item product evaluation scale described above versus when it was manufactured in Mexico ($M_{\text{Mexico, Mexico}} = 2.90$, $M_{\text{Mexico, Germany}} = 3.49$; $F(1, 54) = 9.36$, $p < .01$). Specifically, this study suggests that brands may benefit from manufacturing their products in a country other than the brand origin in circumstances where the country of manufacture has a better reputation in a product category than the brand origin.

Figure 1
PRODUCT EVALUATIONS WITH MEXICO AS BRAND ORIGIN



DISCUSSION AND MANAGERIAL IMPLICATIONS

Managers and academics alike widely recognize that consumers view country of origin as an important cue used in determining evaluations of new products. In fact, as consumers have become more knowledgeable about products and the brands that produce them, they are increasingly seeking out and using COO cues in their evaluations of new products (Webb, 2015). Coincident with the increased importance that consumers associate with COO, economic pressures and the realities of the modern supply chain have made COO increasingly complicated for consumers to evaluate. A single product, for example, may have a brand origin associated with one country but have all of its manufacturing processes associated with another, separate country or countries. Johnson, Tian, and Lee (2016), in a timely piece, suggest that a lack of congruence between brand origin and country of manufacture can decrease consumers' new product evaluations. Their findings, however, were (intentionally) limited to countries with equivalent reputation levels within a single product category. Moreover, the authors found that this effect was reduced when consumers, either based on their own psychological processing styles or based on cues provided by

marketing communications, were able to resolve the lack of consistency between brand origin and country of manufacture.

This research extends those findings by merging them with research that suggests managers can potentially benefit from aligning their supply chains with the capabilities of the countries within their supply chain (Hamzaoui et al., 2011). Combining these findings, it was hypothesized and found that a lack of COO fit can improve evaluations when the country of manufacture has a stronger reputation than a company's brand origin. Consistent with this hypothesis, it was found that if a company based in a country with a poor reputation were to manufacture its products in a country with a more favorable reputation, consumers' product evaluations can increase when fit is lacking.

From a managerial perspective, this research provides a more in-depth understanding that can be used to inform country of manufacture decisions. In addition to these findings, brand managers may consider the trade-offs between manufacturing costs and a country's reputation when choosing to manufacture products in a country other than the brand origin. Often, as established by prior research (Hamzaoui & Merunka, 2006), managers are motivated to manufacture in a country other than their brand origin largely because they can benefit from cost reductions associated with taxes or proximity to their customers. For instance, if a brand outsources its manufacturing to China, Mexico, India, or Indonesia – countries that can offer lower cost manufacturing (BCG Perspectives, 2014) – this decision may hurt its brand reputation, as these countries rank lower in reputation (Reputation Institute, 2015). In contrast, manufacturing in countries with a more favorable reputation such as Switzerland, Italy, or Germany may adversely affect a brand's profitability due to increased wages and higher overall production costs. However, high reputation does not always lead to greater production costs. Compared to Brazil, for instance, manufacturing costs in the U.S. are lower (BCG Perspectives, 2014) and the reputation of the U.S. is higher (Reputation Institute, 2015). Thus, the decision by a Brazil-based brand to manufacture in the U.S. could lead to cost and reputational benefits. Other countries like Canada and Thailand also rank high in reputation while bearing low production costs (BCG Perspectives, 2014; Reputation Institute, 2015), which can benefit a brand when it selects country of manufacture other than its own country.

Notwithstanding the above comparison of manufacturing costs between countries, this research suggests that managers may benefit from choosing to manufacture in a country other than their brand origin to improve consumers' evaluations of the products they produce. For brands based in a country with a relatively weak brand origin reputation - such as Mexico or India – it may be valuable for brand managers to select a country of manufacture with a stronger reputation. Managers can thus reduce the encumbrances associated with their brand origins that may stymie future growth simply by manufacturing their products in a country with a better reputation than the country that their brand is based in. Often, the country with a better reputation may be where many of their customers are based. As such, brands may benefit both from consumers' preferences for purchasing from their home country or a country they identify strongly with (Verlegh, 2007; Maldonado, Lazo, & Carranza, 2008) and from cost benefits associated with proximity to their end users (Hamzaoui & Merunka, 2006).

Finally, if costs are similar between countries – as is increasingly likely due to smaller differences in total costs in wages, manufacturing, and transportation between developing and developed countries become smaller (Economist, 2013) – consumers' new product evaluations may increase based on a lack of COO fit if a company is able to manufacture its product in a country that consumers perceive as more capable than the brand's origin.

Future research may focus on finding additional variables such as consumer characteristics that may moderate the relationship between COO fit and consumers' product evaluations. For instance, consumers' level of ethnocentrism has been shown to moderate the

effects of country of origin cues on product evaluations (i.e. Shimp & Sharma, 1987; Sharma, Shimp, & Shin, 1995). Although the current research suggests that a brand manager's decision to manufacture their product in a country with a more favorable reputation than the brand origin has positive effects, these effects are less likely to emerge when a brand's origin is a consumer's home country, particularly if a consumer rates highly on ethnocentrism.

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CONSUMERS' USE OF COUNTRY-OF-MANUFACTURE INFORMATION: TURKEY VERSUS THE U.S.A.

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ABSTRACT

Globalization and the growth of international trade increase the importance of strategic decisions involving the positioning of brands for successful entry into foreign markets. One of these marketing decisions concerns whether the use of the country-of-manufacture information should be emphasized or masked in brand positioning. Country-of-manufacture (the “made in”) information has been shown to influence consumers’ purchase decisions. However, a number of researchers have been recently questioning the universality of this impact by pointing out at the instances when consumers stated or demonstrated that the country-of-manufacture information did not significantly influence their purchase decisions.

The purpose of this study is to expand our understanding of the boundary conditions for the country-of-manufacture (COM) effect. Specifically, this study examines whether the consumers from Turkey (an emerging market) or the U.S.A. (a developed market) differ in their reliance on the country-of-manufacture information. The study was conducted in non-laboratory setting, a condition that provides a more rigorous test for the study hypotheses since the influence of the country-of-manufacture information cue was examined in our study in the presence of many other information cues (product appearance, retailers’ reputation, salespeople advice, etc.) that could have potentially weakened the country-of-manufacture influence on consumer decisions.

The results indicate that consumers in Turkey rated the COM importance higher, were more aware of the country-of-manufacture of their recent purchases, and cited the “made in” information as a purchase-influencing factor more frequently than consumers in the U.S.A. The effects of country/culture was significant even when the data were adjusted for individual differences in consumer ethnocentrism, and the influence of income, age, and education were taken into account. Consumers’ age, income, ethnocentrism and perceived importance of brands as sources of product quality information were positively related to COM importance in both countries while retailers’ role as guarantors of product quality was negatively related to COM importance in the U.S.A only.

This exploratory study has tested the differences between Turkish and American consumers’ perceptions of the role of retailers as guarantors of product quality and their reliance on brands (ratings of brand importance). As expected, Turkish consumers gave higher ratings to brand importance and lower ratings to retailers’ role as guarantors of product quality. Several possible explanations including cultural differences and stage of market development were discussed in this explanatory study.

Key words: Country of manufacture, country of origin, emerging markets, consumer behavior, Turkey, U.S.A., Uncertainty Avoidance, consumer ethnocentrism.

INTRODUCTION

The country of origin effect has been defined by Bilkey and Nes (1982) as the influence that a product's perceived country of origin exerts on consumers' evaluations of products. The country-of-origin effect has been empirically tested and documented in many marketing studies (e.g., see Peterson and Jolibert, 1995; Pharr, 2005, or Koschate-Fischer, Diamantopoulos, and Oldenkotte, 2012 for reviews of country-of-origin research). Researchers found that the country-of-origin effect can be a result of a number of factors. For instance, they found that the country where the product was manufactured, along with the country where it was designed, or where the components of the product were manufactured, as well as the country of assembly might have an influence on consumers' perceptions of the product and on purchasing decisions (Balabanis & Diamantopoulos, 2008; Chao, 2001; Han & Terpstra, 1988; Johansson & Nebenzahl, 1986; Hamzaoui-Essoussi & Merunka, 2007).

In this study, we decided to focus on the country-of-manufacture (COM) effect as opposed to a broader country-of-origin effect for a number of reasons. Firstly, of all dimensions of the country-of-origin phenomenon, the "made in" aspect draws the most attention of the general public and across the broad political spectrum in conjunction with the debate about the effects of free trade on the state of the economies and on the wellbeing of the citizens. Secondly, since most countries mandate that the country of provenance is indicated on the product label, the "made in" information represents one of the most objective, easily accessible information cues that a consumer can verify for herself simply by examining the product tags or packaging. If consumers utilize the country-of-origin information in their purchase decisions at all, the country-of-manufacture cue is very likely to be utilized. In light of the conflicting information about the importance of the country-of-manufacture information for consumers in the globalized world, we strive to advance our understanding of the phenomenon by examining several aspects of the COM effect across two economically and culturally different countries, the USA and Turkey.

LITERATURE REVIEW AND HYPOTHESES

Degree of Reliance on Country-of-Manufacture Information

This paper uses the cue utilization theory (Olson & Jacoby, 1972) as the underlining theoretical base for exploring the COM effects in the two countries of interest. Olson & Jacoby (1972) separate the product-related information cues into two categories: *intrinsic* (e.g., product shape, performance, texture, etc.) and *extrinsic* (e.g., price, brand name, warranties). Since the product quality rarely can be reliably assessed prior to purchase, prudent consumers have to rely on intrinsic and extrinsic cues as indicators of product quality and to minimize risk of purchase. Country-of-origin information is an extrinsic cue (Bilkey & Ness, 1982; Han & Terpstra, 1988; Hong & Wyer, 1989) that is used by the consumers for the pre-purchase evaluation. The likelihood of utilizing extrinsic cues such as the country-of-manufacture information increases when intrinsic cues are not available to assist in quality diagnostics (Olson & Jacoby, 1972).

Meta-analytical studies (e.g., Peterson & Jolibert, 1995; Verlegh & Steenkamp, 1999) seem to leave little doubt about the pervasiveness of the country-of-origin effect (including its underlying dimensions such as the country-of-manufacture). However, results of recent opinion polls and academic literature suggest that further investigation is needed to clarify the scope and the boundary conditions of the effect.

On the one hand, consumers state that they are interested in and increasingly pay attention to the country-of-manufacture information. For instance, in 2007, Gallup Poll reported that 72% of Americans claimed that they were paying more attention to which

country produces the products they buy (Vence, 2007). In 2013, a New York Times poll found that two-thirds of Americans said they check labels when shopping to see if they are buying American goods and almost half of the respondents claimed that they were willing to pay more for the American-made garments. These statements are, however, confronted with the evidence to the opposite effect coming from the retailers who did not find American-made goods generating better sales than the lower-priced imported competition (Clifford, 2013). On the academic side, a number of recent studies confirm the presence of the country-of-manufacture influence on product evaluations and even consumers' willingness to pay a price premium for a more favorable country of provenance (Koschate-Fischer, Diamantopoulos, & Oldenkotte, 2012). These findings are countered by the sceptics who claim that consumers' concern for the COM as a predictor of product quality is declining (Leclerc, Schmitt, & Dube 1994; Samiee, Shimp, & Sharma, 2005; Saimee, 2011; Usunier & Cestre, 2007), that consumers are for the most part unaware of the origin of the products in their shopping carts (Liefeld, 2004), or could not correctly identify the country-of-origin for a range of familiar brands (Balabanis & Diamantopoulos, 2008). Notably, the effect of diminishing importance of COM information (e.g., Balabanis & Diamantopoulos, 2008; Liefeld, 2004) has been documented in developed, culturally similar (Canada, U.S.A., U.K., etc.) countries which are categorized in the GLOBE project as part of the Anglo cultural cluster (House et al., 2004).

At the same time, research suggests that the various aspects of the country-of-origin effect work differently at different geographical locations. Specifically, culture (Gurhan-Canli & Maheswaran, 2000), country's stage of economic development (Batra et al., 2000; Hamzaoui Essoussi & Merunka, 2007; Reardon, Miller, Vida, & Kim, 2006; Sharma, 2011), ethnocentrism (Cilingir & Basfirinci, 2014; Durvasula, Andrews, & Netemeyer, 1997; Parker, Haytko, & Hermans, 2011; Pecotich & Rosenthal, 2001), or historical events that resonate most profoundly with certain populations (Klein, Ettenson, & Morris, 1998) were found to interfere with the positive or negative influence that country of origin exerts on consumers' evaluation of products. Despite recent research activity exploring the effect that "made in" information exerts across different countries/cultures, many gaps remain. For instance, Sharma (2011) notes that even though there is growing evidence of differences in how consumers behave in emerging versus developed markets, there is little research on the differing effect of country-of-origin information on consumer decision making. For instance, given that the evidence suggesting that the influence of the COM is on decline comes predominantly from "mature" developed markets, should we expect similar decline to be observed in "younger" emerging markets? Or, is the COM on decline only in the developed markets while it matters a lot in emerging markets?

Even though it would be potentially interesting to explore the interplay of the country-of-manufacture with other related constructs such as the country-of-design, country-of-brand-origin, or country-of-assembly (e.g., Chao, 2001; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi, 2010; Johansson & Nebenzahl, 1986), the format of a short post-purchase interview that we chose for this study limited a number of questions that we could ask. Based on the findings of a meta-analytical study by Verlegh & Steenkamp (1999) who did not find significant differences in effect sizes for hybrid (products that are designed in one country but manufactured in another country) and non-hybrid products, we made the decision to focus on just one aspect of the country-of-origin effect, that is, on the country-of-manufacture (COM) for the purposes of this particular study.

It remains unclear whether consumers from two culturally and economically different countries will vary in the degree of their awareness and utilization of the country-of-manufacture information when evaluating products for purchase. In an exploratory fashion, this current research compares the role that the country-of-manufacture information plays in

the very dissimilar countries: Turkey and the U.S.A. The rationale for selecting these two countries for our hypotheses testing is explained further in this paper.

The focus of this paper lies in examining whether Turkey and the U.S.A. differ in perceived importance of the COM information in the presence of other potential extrinsic product quality information cues such as brand names and retailers' reputation as guarantors of quality. Additionally, we examine the role of consumer ethnocentrism (Shimp & Sharma, 1987) and a few key demographic variables (age, income, and education) as they relate to perceived COM importance. Although this study remains exploratory in nature and does not strive to build a comprehensive model of the factors influencing consumers' perceptions of COM importance, it makes a contribution by taking the first steps to an eventual systematic examination of the difference between the COM role in the emerging and the developed markets while taking a number of potential influencing factors into consideration. Finally, this study strives to make a contribution by investigating the difference between the two countries in consumers' awareness of the COM of their purchases and in COM influence on consumer decision-making in natural (non-laboratory) settings. Previous research has shown that when COM is the only extrinsic quality cue available (vs. multiple cues, such as price and brand) or when respondents were presented with a verbal description of the product (vs. an actual product in its physical form), the COM effect size tends to be inflated (Liefeld, 1993; Peterson & Jolibert, 1995). Many of the COM studies published have utilized single-cue designs and many used verbal descriptions. Asking consumers to recall their actual considerations that influenced their real life purchase decisions allows for investigating the COM effect within a richer context and allows for more accurate mapping of the boundary conditions of COM influence on consumer behavior by comparing the role of the country-of-manufacture information cue across two economically and culturally different countries: Turkey and the U.S.A.

Cultural and Economic Differences, Turkey versus the U.S.A.

Given the focus of this study on exploring whether consumers from emerging economies might differ from their peers in developed economies in their reliance on the country-of-manufacture information, we chose Turkey for the comparison with the United States.

According to the World Bank (World Bank, 2015), Turkey is a rapidly growing middle-income economy with the GDP of \$ 822.1 billion USD and the population of 75 million in 2013. It is the 18-th largest economy in the world that achieved a three-fold increase in average income in less than a decade (Turkish Statistical Institute, 2015). There is a general consensus on the part of global financial institutions (the World Bank, International Monetary Fund, Dow Jones) that classify Turkey as an emerging market. The U.S.A. (GDP of \$ 16.7 trillion USD and the population of 316 million in 2013), of course, is classified as a developed market. The Global Edge data portal (GlobalEdge, 2015) estimates one of the key economic development indicators, the GDP per capita in purchasing power parity dollars equal to \$ 19,020 in Turkey. The same indicator was equal to \$ 53,042 for the United States.

Prior research provides many indications that consumers' reliance on COM information is likely to vary depending on the stage of economic development of the country where the consumer resides. First, multiple studies suggest that consumers in emerging markets prefer foreign brands, especially brands coming from developed markets, to local products not only because they consider imported products to be of superior quality, but for status-enhancing reasons as well (Batra et al., 2000; Hamzaoui-Essoussi, 2010; Sharma, 2011). Some consumers in emerging markets prefer non-local to local brands for value-expressive purposes. For instance, conspicuous consumption of foreign brands can be used to

manifest modernity, individuality, and freedom of choice (Bar-Haim, 1987; Batra et al., 2000; Sandikci & Ekici, 2009). In summary, consumers from the emerging markets might utilize the country-of-manufacture information cue not only for evaluating product quality but for achieving other consumption-related goals as well. In other words, compared to their counterparts in the developed markets, they have more uses for the COM information cue, therefore they are likely to utilize the COM information cue more heavily.

Second, because consumers in emerging markets have a shorter history of access to world-class-quality products and competition-driven marketplaces, they tend to have lower levels of consumer expertise (Alba & Hutchinson, 1987) and product-related expertise (Batra, 1997; Hamzaoui-Essoussi & Merunka, 2007; Sharma, 2011). Specifically, compared to their counterparts in a developed market, consumers in an emerging market might be less aware of the available brands and less familiar with the product category attributes and benefits (Batra, 1997; Sharma, 2011). As extant research suggests, COM information is more likely to be utilized by consumers with low (versus high) product expertise (Maheswaran, 1994; Pecotich & Ward, 2007). Based on the research pertaining specifically to Turkey, we might expect the same attitudinal tendency of heightened attention to product provenance. Recently, Cilingir & Basfirinci (2014) found that the country-of-origin information significantly influenced the product evaluation process in Turkey.

Finally, smaller scale non-consolidated retailers in emerging markets are typically less able (or willing) to offer product quality warranties to their consumers (e.g., accepting product returns when a consumer is not satisfied with the product). An industry expert recently described the retail market in Turkey as “fragmented and difficult to consolidate...” (Dombey & Felsted, 2013). We reason that in order to compensate for the relative deficiency of retailers’ warranties, consumers in Turkey need to develop efficient decision-making strategies for identifying “safe” choices. This deficiency will likely increase consumers’ reliance on the country-of-manufacture information as a quality cue.

Besides the distinction between Turkey and the U.S.A. along the lines of emerging versus developed markets, there are general cultural differences that might contribute to the differences in consumers’ utilization of the country-of-manufacture information cue. As we noted earlier, many of the studies that suggested the decline of consumers’ reliance on the country-of-origin, including the country-of-manufacture information (e.g., Liefeld, 2004; Saimee, 2011; Usunier & Cestre, 2007), were conducted in the developed, culturally close cluster of countries belonging to the so-called “Anglo” cultural cluster (e.g., Canada, the U.K., the U.S.A.), according to the GLOBE program (House et al., 2004). In our study we compare consumers’ responses collected in the U.S. to those collected in Turkey which is a part of a distinctly different cultural cluster dubbed “the Middle East” (along with Morocco, Egypt, and others) by the GLOBE project researchers. The “Middle East” and the “Anglo” clusters are presented as the most culturally different, diametrically opposite, from each other relative to eight other GLOBE culture group categories (e.g., Eastern Europe, Southern Asia, Sub-Saharan Africa etc.).

We relied on the data from a widely recognized ongoing Hofstede study of cultural dimensions to identify the cultural dimensions that might affect consumers’ utilization of the COM cues. According to the Hofstede Center data (Hofstede Center, 2015), Turkey and the U.S.A. differ substantially along all of Hofstede’s cultural dimensions. For instance, the U.S.A. exceeds Turkey in Individualism, Masculinity, and Indulgence, while Turkey exhibits higher scores of Power Distance, Uncertainty Avoidance, and Long-Term Orientation. We believe that Uncertainty Avoidance scores can be particularly relevant to consumers’ tendency to rely on the COM information in their shopping decisions. The Uncertainty Avoidance dimension is defined as “the extent to which people feel threatened by uncertainty and ambiguity” (De Mooij & Hofstede, 2011, p. 183). The cultures that have high scores of

Uncertainty Avoidance are known to adopt practices and prefer products that reduce risk and uncertainty. For instance, there is a correlation between high levels of Uncertainty Avoidance and consumption of bottled water (De Mooij, 2003). The Uncertainty Avoidance score for Turkey is 85 versus 46 for the United States (The Hofstede Center, 2015). Thus, on the basis of the difference in Uncertainty Avoidance scores, we can expect Turkish consumers to exert greater efforts in reducing the risk of their purchasing decisions. Specifically, we can expect Turkish consumers to utilize more information cues, including the country-of-manufacture cue, when evaluating products.

In total, the above considerations regarding the stage of economic development and the cultural differences between Turkey and the U.S.A. suggest that:

H1: Consumers in Turkey versus the U.S.A. will give higher ratings to the importance of the country-of-manufacture information.

As a consequence of Turkish consumers (vs. American consumers) giving higher ratings to the importance of the COM information, we expect Turkish consumers to be also more aware of the country-of-manufacture of their recent purchases and to name the country-of-manufacture information as a purchase-influencing factor more frequently:

H2: Consumers in Turkey versus the U.S.A. will have greater awareness of the country-of-manufacture of their purchases.

H3: Consumers in Turkey versus the U.S.A. will more frequently cite the country-of-manufacture as a factor influencing their purchases.

As we discussed earlier, country-of-manufacture exerts its influence along with many other extrinsic quality cues (Olson & Jacoby, 1972), such as the reputation of a brand, reputation of a retailer that sells the brand, price level, etc. Recall that we expect that consumers' use of products for value expressive purposes, lower levels of consumer expertise, less generous warranties by the retailers, and the cultural propensity to seek the "safest" purchase options leads to greater reliance on the COM extrinsic cues in Turkey, as opposed to the U.S.A. However, the above economic and cultural factors should exert influence on other potential extrinsic quality cues as well. To examine for such possibility, we set forth two hypotheses pertaining to the utilization of brand and retailer reputation cues by consumers in Turkey versus the U.S.A. We expect that brand information utilization will occur along with COM information utilization and, the vector of its influence will be unidirectional with the COM cue. In fact, country of provenance is likely to be considered by a consumer as one of the facets of a brand image (Keller, 2003). Therefore, we expect those consumers who pay attention to the COM information to pay attention to the brand as an extrinsic indicator of a product quality as well.

In fact, Hong & Wyer (1989) found that the country-of-origin information not only had a direct effect on product evaluations, it also stimulated subjects to think more about other product attributes, augmenting their effect. Pecotich & Rosenthal (2001) found that the country-of-origin effect was most prominent when the country cue was presented in conjunction with a strong national brand to highly ethnocentric consumers. Therefore, the use of brand reputation as a quality indicator complements, rather than supplants the COM information cue.

Thus, we should expect that consumers who rely more on the COM information (Turkey) will also consider the brand name to be an important source of quality information.

H4: Brand importance will be positively related to the COM importance ratings.

Contrary to the relationship between brand importance and COM, retailers' ability to back up the product with exchange and return policies, is expected to render the country-of-manufacture cue less important. In fact, if a retailer uses due diligence in selecting the products to be sold at its stores and is ready to serve as an additional guarantor of product quality by providing generous return and exchange policies, it becomes less critical for the consumer to investigate all alternative quality cues (such as the brand name and the country-of-manufacture) prior to purchase. When the retailer is trusted and is willing to provide exceptional quality warranties, the products sold by this retailer are likely to be bought with little consideration for the location of the actual manufacturer of these products. Therefore, higher ratings of the retailers' as guarantors of quality are likely to work in a compensatory manner to the COM quality cue. The more the consumers trust the retailers to select the best quality products, the less they need to rely on the COM information as a quality cue. For instance, as we discussed earlier, we expect to find that in Turkey retailers generally play a less prominent role as guarantors of product quality.

H5: The ratings of retailers' performance in ensuring product quality will be negatively related to the COM importance ratings.

Influence of Consumer Ethnocentrism

Consumer ethnocentrism (Shimp & Sharma, 1987) involves beliefs about the appropriateness of purchasing foreign-made products. For ethnocentric consumers, not only are domestic products viewed as superior, but purchasing imports is viewed as morally wrong because it hurts the domestic economy and causes loss of jobs (Shimp & Sharma, 1987). Sharma (2011) found that ethnocentrism is negatively associated with product evaluations and purchase intentions for imported products irrespective of the products' COM or of the objective quality of the products being evaluated. Prior research has also found that higher levels of ethnocentrism were associated with a predisposition to purchase domestic products and the use of country-of-origin information (Balabanis & Diamantopoulos 2008; Netemeyer, Durvasula, & Lichtenstein, 1991; Orth & Firbasova, 2003; Shimp & Sharma, 1987; Sharma, 2011) while having a negative effect on attitudes toward and purchase intentions regarding foreign products (Durvasula, Andrews, & Netemeyer, 1997; Klein, Ettenson, & Krishnan, 2006; Netemeyer, Durvasula, & Lichtenstein, 1991).

This leads to the proposal that highly ethnocentric consumers are more likely to pay attention to the country-of-manufacture information because it increases their chances of making "morally correct" purchases which, in their opinion, involve favoring domestic manufacturers.

H6: Consumers' levels of ethnocentrism will be positively related to the ratings of COM importance.

Because of the dearth of empirical academic research directly comparing consumers' reliance on brand information or their perceptions of retailers as guarantors of quality in the U.S.A. and in Turkey, we had to make a few assumptions (e.g., that retailers generally do less to ensure product quality in Turkey, compared to the U.S.A.), based on the available literature. To verify these assumptions, we set forth two formal hypotheses:

H7: Consumers in Turkey versus the U.S.A. will give higher ratings to brand importance.

H8: Consumers in Turkey versus the U.S.A. will give lower ratings to retailers' performance as guarantors of product quality.

METHOD

Sample

The data were collected in Turkey and in the United States by interviewing consumers shortly after they made a purchase. The data were collected by students enrolled into undergraduate marketing courses at a small private university in the Pacific Northwest of the U.S. and at a medium size private university in Turkey, respectively. Each student conducted a post-purchase interview of five consumers about the purchases that these individuals made over the period of 7 days prior to the interview. The data collection in both countries was timed to be conducted during the main holiday shopping season: end of Ramadan (Eid ul Fitr) in Turkey and Christmas in the U.S.A., respectively. Both religious holidays are associated with the tradition of gift giving and many of the purchases made by the respondents were intended to be given as gifts. The students conducting the interviews attended a training session during which they were provided with the interview script. This data collection procedure yielded 561 usable surveys in Turkey and 298 in the U.S.A. The questionnaires and the respondents' open-ended answers were translated to and from the Turkish language by the local bilingual collaborators. Respondents' participation in this study was voluntary and no monetary rewards were provided for participation. Student interviewers were rewarded with partial course credit.

Procedure and Measures

To maintain consistency across the series of interviews, interviewers asked respondents to indicate the most expensive item bought during the preceding seven days. Product categories such as housing, gasoline, and public transportation, for instance, for which the country-of-manufacture cannot play a role in the choice process, were excluded from the data collection (Liefeld, 2004). At the next stage of the interview, respondents were asked: "When you were shopping for [name of the item], what did you consider when making your choice?" The unprompted response was coded into one of the predetermined categories: price, brand, quality, retailer, country-of-manufacture or, if the interviewers felt that the response did not fit any of these categories, the answers were recorded verbatim for subsequent classification. The interviewers were instructed to make two more probes: "Did you consider anything else in your choice?" and record the answers in the same manner as above. Therefore, up to three factors influencing purchase decisions were recorded per respondent.

The COM awareness was measured through the question: "Do you know where [name of the product] was made?" with response options being yes, no, and not sure. If respondents felt that they knew the COM of their purchase, they were asked to state it, and their answers were recorded. They were then asked to indicate the source of their knowledge with the response options being: looked at the package, purchased before, guessed, other.

Two measures, each consisting of three items, were developed to capture respondents' opinion about COM information importance and brand importance. Consumers' rating of retailers as guarantors of products' quality were assessed with the help of a single-item measure (please see Appendix for the wording of all measures developed specifically for this study). The responses were recorded on five-point Likert type scales ranging from 1=strongly disagree to 5=strongly agree. Responses to each of the three-item measures were averaged to form the indexes of COM Importance and Brand Importance, respectively. Next, respondents completed the 10-item version of the Consumer Ethnocentrism Scale (Shimp & Sharma, 1987) and indicated their gender, age, education, and income.

ANALYSIS AND RESULTS

Demographic Profile of the Respondents

As a first step of the analysis, demographic characteristics of respondents from each country were compared (see Table 1).

Overall, education and income levels in our samples tended to be higher than the national statistics. The main reason for this pattern in both countries was the fact that the post-purchase interviews were conducted by the students enrolled at private universities. This circumstance may have led to oversampling students' friends and family members who also tended to be wealthier and better educated than an average consumer. Although certain bias of results obtained via convenience sampling methods is unavoidable, it is not always undesirable, depending on the purpose of the study. In the case of this current research, by asking the wealthier populations (particularly in an emerging market) about their reliance on COM information, we could be sure that we were getting answers from the part of the population who were actually familiar with and could afford buying imported products. Likewise, asking a more educated population about their purchase behaviors in regard to foreign-made products, represents a more stringent test of several of our hypotheses. This comment is based on extant research that found, for instance, that greater consumer expertise leads to lesser reliance on country of origin information (Maheswaran, 1994). Therefore, if we find support to our hypotheses about greater reliance on COM information in Turkey (an emerging market) in a population of affluent and educated consumers who possess higher levels of consumer expertise, we can expect that the effect will be even more pronounced among less affluent and less educated consumers.

Table 1 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS			
Variable	Categories	Turkey	U.S.A.
Number of respondents		561	298
Gender, %	Male	52.1	49.8
	Female	47.9	50.2
Age, %	< 35	60.0	67.0
	35-54	34.3	23.6
	> 55	5.7	9.4
Highest education level, %	< High school	2.3	1.4
	High school	19.3	9.5
	College	65.8	78.0
	Graduate school	12.5	11.1
	Not reported	.1	0
Income, %	< \$ 25,000	15.9	36.4
	\$ 25,000 - 49,999	20.9	12.5
	\$ 50,000 - 74,999	23.4	15.0
	\$ 75,000 - 99,999	14.3	7.5
	> \$100,000	25.3	28.6
	Not reported	.2	0

Products Purchased

Two independent coders classified all reported purchases into nine product categories. Any disagreements were resolved through discussion. The most frequently reported purchases were from the apparel and footwear category, followed by consumer electronics. These two categories accounted for well over half of the purchases reported by the respondents in both countries. Overall, 298 purchases were reported by the American respondents and 553 by the Turkish respondents.

Hypotheses Testing

Hypothesis 1 predicted that Turkish consumers will rate the importance of the COM information higher than American consumers. Existing research suggests that income and education might play a role in consumption of foreign brands (e.g., Kaynak & Kara, 2001). To control for the possibility that other factors, such as age, income, and education level could be responsible for the observed results and to control for a potential confounding factor, consumer ethnocentrism, an ANCOVA design was used in Hypothesis 1 testing. The independent variables included country/culture (2 levels: Turkey vs. the U.S.A.) \times Age (3 age categories – see Table 1) \times Education (4 education categories) \times Income (5 income categories). The Index of COM Importance, calculated as the sum of the 3 COM importance items – please see Appendix) was a dependent variable and consumer ethnocentrism (CET) was a covariate. The reliability of the COM Importance index was sufficient (Bagozzi, 1994) for both Turkey and the U.S.A. (Cronbach's alpha .78 and .75, respectively). The 10-item Consumer Ethnocentrism scale also had high reliabilities in both country-samples, with Cronbach's alpha being .91 in Turkey and .93 in the U.S.A.

Since theory did not predict the interactions between the independent variables (e.g., Education \times Income \times Age) and the full factorial ANCOVA confirmed that the interaction terms were not significantly associated with the outcome variable (COM importance), interaction terms were eliminated from the model for the subsequent analyses. The resulting main effects ANCOVA model was significant ($F(11, 825)=12.7, p<.001$) explaining 14.5% of the variance. The main effect of country/culture (that is, respondents residing in Turkey ($M=3.40$) versus the U.S.A. ($M=3.05$)) on COM importance was significant ($F(1, 825)=17.7, p<.001$, even when the data were adjusted for individual differences in consumer ethnocentrism and the influences of income, age, and education were included in the model. Income ($F(4, 825)=2.41, p<.05$) and age ($F(2, 825)=5.19, p<.01$) were significant as predictors of COM importance ratings, while education was not a significant predictor ($F(3, 825)=1.97, n.s.$). Consumer Ethnocentrism was significant as a covariate ($F(1, 825)=42.89, p<.001$). Taken together, these results fully support H1 by indicating that even when the influence of age, income, and education, as well as the influence of a potential covariate were taken into consideration, Turkish respondents rated the importance of the country-of-manufacture (COM) information significantly higher than American respondents. The pattern of the means suggests that older age and higher income levels were associated with higher ratings of COM importance.

Recall that H2 predicted that, compared to their American counterparts, consumers in Turkey, will have greater awareness of the country-of-manufacture of their purchases. To test for H2, the responses to a “*Do you know where the product was made?*” question were subjected to a Chi-square test. Of all Turkish respondents who answered this question, 48.1% felt that they knew the COM of their purchases. This was significantly higher than the level

of COM awareness in the U.S.A. (34.5%), as confirmed with the Chi-square statistics (χ^2 (1, N=853)=14.67, $p<.001$). Overall, H2 has been fully supported.

To test whether consumers in Turkey will more frequently cite the country-of-manufacture as a purchase-influencing factor (H3), the total count of all *unprompted* mentions of the country-of-manufacture as a factor that influenced a purchase decision was calculated across the responses to the three probes by the interviewers. Recall, that every respondent could give up to three different answers in response to three probes asking her to name the factors that influenced her decision (“*When you were shopping for [name of the item], what did you consider in making your choice?*”). The respondent could also decline answering this question or give an answer of “*nothing else*” that would result in zero count of reasons influencing her purchase decisions. In sum, the percentage of respondents in Turkey citing COM as a purchase-influencing factor (8.2 %) was greater than in the U.S.A. (.3%). This difference was statistically significant (χ^2 (2, N=859)=23.27, $p<.001$), providing full support for H3.

On a side note, price, brand, and quality were the most frequently named decision factors in both countries and by far surpassed the frequency with which COM was mentioned as a purchase-influencing factor (see Table 2). Additionally, our study provided insight into the process of how the consumers usually acquire the COM information in “natural” (non-laboratory) settings. Of those respondents who thought that they were aware of the country-of-manufacture of their purchases, the most frequently reported method was “*by looking at the package*” (36.9% Turkey, 47.4% U.S.A.). Another frequently cited source of COM information was that the consumer’s prior knowledge (“*already knew the product’s COM/purchased it before*”): this percentage was 30.7% in Turkey and 13.5% in the U.S.A. Finally, about a quarter of the respondents in each country told the interviewers that they just “*guessed*” the product’s COM (28.4% Turkey, 21.8% U.S.A.). Together, these three response categories explain 82.7% instances of the COM awareness in the United States and 96% in Turkey.

Overall, all three hypotheses pertaining to the elevated role that a country-of-manufacture plays for the consumers in Turkey, compared to the U.S.A., were fully supported.

Hypotheses 4-6 about the influence exerted by Brand Importance, retailers’ role as guarantors of quality (referred to as “Retailers’ Role” hereafter), and Consumer Ethnocentrism on COM Importance ratings were tested with the help of the regression analysis. The data were analyzed separately for the U.S.A. and Turkey. At the first step, Brand Importance and Retailers’ Role were entered as independent variables, with COM Importance being a dependent variable. In the next step of the analysis, CET scale was added as a predictor of the dependent variable.

Table 2
FREQUENCY OF THE COUNTRY-OF-MANUFACTURE (COM) UNPROMPTED MENTION IN COMPARISON TO THE SIX MOST FREQUENTLY CITED PURCHASE-INFLUENCING FACTORS (% OF RESPONDENTS)

	Turkey	U.S.A.
Probe 1	Quality (44.2%)	Price (32.2%)
	Brand (33.0%)	Brand (22.8%)
	Price (17.1%)	Quality (21.5%)
	Design (3.0%)	Retailer (7.7%)
	Retailer (1.2%)	Design (7.4%)
	COM (.6%)	COM (.3%)
Probe 2	Price (31.6%)	Price (27.8%)

	Quality (30.2%)	Quality (27.4%)
	Brand (25.1%)	Brand (20.0%)
	Retailer (7.3%)	Design (8.9%)
	Design (2.5%)	Retailer (8.9%)
	COM (1.6%)	COM (0%)
Probe 3	Price (26.2%)	Quality (29.3%)
	Brand (18.9%)	Price (22.8%)
	Quality (16.6%)	Retailer (16.3%)
	Retailer (11.8%)	Brand (11.4%)
	COM (6.0%)	Design (9.2%)
	Design (1.2%)	COM (0%)

The model using Brand Importance and Retailers' Role as predictors of COM Importance have been significant for both Turkey ($F(2, 554)=24.29, p<.001$), and the U.S.A. ($F(2, 294)=7.95, p<.001$). Adding Consumer Ethnocentrism (CET) as an independent variable improved predictive power of the model (R^2 change ($F(1,553)=36.4, p<.001$) for Turkey and ($F(1, 293)=25.5, p<.001$) for the U.S.A.). The significance of the resulting improved models (with the inclusion of CET) was ($F(3,553)=27.4, p<.001$ for Turkey and $F(3, 293)=11.6, p<.001$ for the U.S.A.). These models explained 13.7% of the variance in ratings of COM Importance in Turkey and 12.7% of the variance in the U.S.A. Brand Importance was significantly related to COM Importance in both countries (see Table 3), thus supporting H4. Recall that H5 predicted a negative relationship between COM Importance and Retailers' Role. In the U.S.A., H5 was supported by the data: Retailers' Role was significantly negatively related to the COM Importance. Adding CET as a predictor did not change this pattern. However, in Turkey, the relationship between Retailers' Role and COM importance was neither negative nor significant. Therefore, the data rendered only partial support to H5. Consumer Ethnocentrism was significantly positively related to COM Importance in both countries, thus supporting H6.

Table 3
RESULTS OF REGRESSION ANALYSES PREDICTING COM IMPORTANCE RATINGS FROM
BRAND IMPORTANCE, RETAILERS AS GUARANTORS OF QUALITY, AND CONSUMER
ETHNOCENTRISM RATINGS IN TURKEY AND THE U.S.A.

	Turkey	U.S.A.
Model 1 (Brand Importance and Retailers' Role as Predictors)		
Brand Importance	.314***	.261***
Retailers' Role as Guarantors of Quality	.086*	-.130*
Model 2 (Brand Importance, Retailers' Role, and CET as Predictors)		
Brand Importance	.348***	.246***
Retailers' Role as Guarantors of Quality	.045	-.118*
Consumer Ethnocentrism	.281***	.297***

Note: Numbers represent unstandardized beta weights.

* $p<.05$.

** $p<.01$.

*** $p<.001$

Hypotheses 7 and 8 tested two of the assumptions of our study. Specifically, H7 predicted that, compared to the U.S.A., consumers in Turkey will give higher ratings to Brand Importance (H7) and lower ratings to Retailers' Role (H8) as guarantors of product quality. As predicted in H7, Turkish consumers rated their reliance on brand as a guarantor of

product quality higher (non-adjusted mean $M=3.74$) than their American counterparts ($M=3.62$, $F(1,368)=4.25$, $p<.05$).

The data also fully supported H8. The average agreement (on a 5-point scale) with the statement “*Most retailers do a good job selecting good quality products to be sold at their stores*” was higher in the U.S.A. ($M=3.30$) than in Turkey ($M=3.15$, $F(1, 852)=4.50$, $p<.05$).

DISCUSSION

Consumers in Turkey had greater awareness of the COM of their purchases, cited COM more frequently as an influencing factor, and rated COM to be of higher importance as a criterion for product selection than consumers in the U.S.A. Thus, the results supported our proposition that, assuming that the “COM skeptics” are correct about the declining role of the country-of-manufacture information cue (e.g., Liefeld, 2004; Saimee, 2011; Usunier & Cestre, 2007), this decline is not happening at the same pace across different countries/cultures. A much larger percentage of our respondents in Turkey (48.1%) versus the U.S.A (34.5%) were aware of the country-of-manufacture of their purchases. Even though the country-of-manufacture was relatively rarely named as the reason for the purchase decision in either country (see Table 2), the consumers in Turkey were significantly more likely to have country-of-manufacture “on their mind” when buying a product (8.2% versus .3% in the U.S.A.). Recall that the question “*What influenced your purchase decision?*” was asked using the open-ended format. The interviewers did not give the respondents a list of response options where COM was one of the response categories. Every mention of the country-of-manufacture counted in this present study means that a respondent cared enough about the COM as a purchase influencing factor that it triggered an unaided recall. In our opinion, this, as opposed to the multiple-choice format, provides a more stringent test for the significance of the COM in consumer decision-making in “natural” (non-laboratory) settings.

In order to properly interpret the self-reported levels of COM influence in this study, it is important to keep in mind that under natural shopping conditions COM information competes for consumer's attention with brand name, price, retailer's reputation, salesperson recommendations and a multitude of other intrinsic and extrinsic product quality cues (Han & Terpstra, 1988; Hong & Wyer, 1989; Wall, Liefeld, & Heslop, 1991). It is not surprising, therefore, that the relative weight of COM influence drops in the presence of other competing purchase-influencing factors compared to research conducted via single-cue laboratory studies. The low level of self-reported reliance on COM for purchase decisions in the U.S.A. (.3%) in our study was consistent with the comparable statistic from a study conducted in the U.S.A. and Canada where 1.7% of respondents felt that COM influenced their purchase decisions (Liefeld, 2004).

It is notable, however, that low levels of self-reported COM influence were in dissonance with the much higher levels of COM awareness (48.1% Turkey, 34.5% U.S.A.). For someone who claimed that her purchase decisions were influenced by some other, non-COM factor (e.g., retailers' influence, price, design, etc.), our typical respondent was remarkably aware of, or thought that she was aware of, the country where her purchases were made. This points out a possibility that the COM cue utilization rate might actually be higher than indicated by the self-stated reasons for buying. For instance, the COM influence might become an aspect of a specific brand's appeal (e.g., when the country of provenance is actively promoted as a source of competitive advantage or as an important part of a brand image such as the case with French perfume, German autos, etc.). Testing for Hypothesis 4 confirmed the linkage between the COM Importance and Brand Importance. Generally speaking, if consumers believed that country-of-manufacture information helps to gauge the

quality of the product, they tended to believe that brands are also important in assessing the product quality.

A possible explanation to the observed pattern is that the COM information becomes incorporated into the schemas of established brands. Extant research has shown that intrinsic and extrinsic brand attributes, benefits, images, attitudes, experiences, associations, thoughts, feelings (Keller, 2003), as well as personality characteristics (Aaker, 1997) become linked to brand schema over time (Puligadda, Ross, & Grewal, 2012). In line with this theorizing, it seems likely that COM might become incorporated into a brand schema of certain brands as well. The COM cue might also exert its influence in an indirect manner such as through a salesperson's recommendations. An example of such influence is when a salesperson is aware of and is influenced by the COM cue and then, based on this influence, recommends the product to a consumer.

The second consideration that emerges from the analysis of this research data is that even when potentially confounding factors such as consumer ethnocentrism, age, income, and education, were taken into consideration, the COM continued to play a greater role in consumer decisions in Turkey compared to the U.S.A. As we stated earlier, the differences in economic development and in cultural environment might be some of the reasons behind the pattern of results predicted in hypotheses 1-3. However further research is needed to properly test this explanation.

In light of the studies that observed the instances when consumers associated popular brands with the wrong country of provenance (Balabanis & Diamantopoulos, 2008), our research contributes to the exploration of the phenomenon by documenting what sources consumers actually use to obtain the COM information in non-laboratory settings. Examining the package, by far, was the most frequently used method in both countries (36.9% in Turkey, 47.4% in the U.S.A.). The next most frequently utilized method was relying on memory, deducting the COM from past purchase experiences. This percentage was notably higher in Turkey (30.7%) than in the U.S.A. (13.5%) which might be attributed to one of the two explanations: either the share of repeat purchases was higher in our Turkish sample (this variable was not measured in this research) or Turkish consumers indeed stored in their memory the COM information for a longer list of products. The latter explanation would be in line of our findings that consumers in Turkey (vs. the U.S.A.) rely more on the country-of-manufacture cue.

Respondents in Turkey rated Brand Importance higher (H4), and Retailers' Role as quality guarantors lower (H5), compared to the responses from the American sample. The data supported both hypotheses. Taken together, these results shed exploratory light on why emerging market consumers might be highly attuned to the COM information. Indeed, if smaller scale, non-consolidated retailers in the emerging market of Turkey do not yet "pull their weight" as product assortment curators and quality guarantors, consumers have no other choice as to use due diligence and exert more effort in evaluating purchases prior to purchase. Brand reputation and the COM then become particularly valuable as extrinsic cues of product quality.

Notably, in the U.S.A. sample, Brand Importance was positively related to COM Importance, as opposed to the negative relationship between Retailers' Role and the COM Importance (see Table 3). In the data from Turkey, both Brand Importance and Retailers' Role were positively related to COM Importance. American data suggests a compensatory mechanism: if the retailers do their job selecting reliable suppliers and back up their products with generous exchange and return policies, this diminishes the need to utilize other extrinsic cues, hence the stable negative relationship between the Retailers' Role and COM Importance, even after accounting for respondents' ethnocentrism. In Turkey, the Retailers'

Role seems to be viewed more as a supplement, working concurrently with brand information in ensuring product quality.

Taken together, these results support the view of the COM as an inextricable component of the brand image (indeed, the country of provenance is actively exploited in many advertising campaigns). Our research suggests that retailers' role in ensuring product quality, on the other hand, might be more varied from country to country.

The results concerning consumer ethnocentrism supported our expectation that ethnocentric consumers pay more attention to the "made in" information irrespective of the country where they reside. Overall, mean Consumer Ethnocentrism levels were moderate ($M=2.55$ Turkey, $M=2.30$ U.S.A., on a 5-point scale). The difference between Consumer Ethnocentrism means, however, was statistically significant ($t(857) = 3.83$, $p < .001$), indicating that consumers in Turkey were more likely to have ethnocentric views on the appropriateness of consumption of foreign made goods.

The contribution of our study goes beyond the expansion of the geographic scope of the study of consumers' self-reported use of COM information by conducting a head-to-head comparison of Turkey and the U.S.A. This research not only tested for and found evidence of greater reliance on the COM information in consumer decision-making in Turkey versus the U.S.A., it also explored the role of two other potential purchase-influencing factors: brand and retailer reputation. Most importantly, in the ongoing debate centered around the question: "*Does the "made in" information still matter in the increasingly globalized world?*" our study provides some initial evidence that individual countries differ in their reliance on the country-of-manufacture information as a quality cue. We suggest that the stage of economic development and cultural differences, particularly the difference in Uncertainty Avoidance scores on Hofstede scale (Hofstede, 2001) might be some of the factors explaining the degree of reliance on the COM cues although further research is needed to answer with certainty what causes the observed differences.

IMPLICATIONS, FUTURE RESEARCH, AND LIMITATIONS

Globalization and the increase in international trade in goods and services opens great opportunities for the companies wishing to serve overseas markets. However, successful entry into foreign markets requires making a number of strategic marketing decisions. One of these marketing decisions concerns whether the use of the country-of-manufacture information should be emphasized or masked in product positioning. If the "COM skeptics" (e.g., Liefeld, 2004; Saimee, 2011; Usunier & Cestre, 2007) are right and the "*COM no longer matters*" then the COM information can be safely omitted from brand positioning. This research, to the best of our knowledge, is the first to provide an exploratory indication of country/culture-specific differences in consumers' reliance on COM information. This research provided evidence of greater reliance on COM information in Turkey versus the U.S.A.

These findings suggest important managerial implications for international marketing. One immediate application is the insight into the Turkish market relative to the U.S.A. market, as discussed above, regarding awareness of, use, and importance of COM information in consumer decisions. Relative to the U.S.A., consumers in Turkey were more attuned to the country-of-manufacture information cue. Marketers should be advised to emphasize the COM information when it is perceived as favorable by the Turkish consumers and exert additional effort to overcome the negative influence of the less favorable countries of manufacture. Therefore, marketing communication may need to be planned carefully to mitigate any unfavorable perceptions and to exploit the full potential of favorable COM effects.

An even greater practical applicability might stem from the replication of this study with a larger sample of emerging and developed economies testing the generalizability of our findings. Conducting a follow-up to this study in the BRICS countries, given their status as emerging markets and their growing importance for world economy, could be particularly valuable. If indeed, as we expect, these future studies confirm that the COM information “looms larger” in emerging markets compared to the developed economies, this knowledge might assist marketing managers in formulating marketing strategies for the emerging markets.

The “made in” information might represent one of the greatest assets (or liabilities) of the product. Highly ethnocentric consumers, versus less ethnocentric consumers, are more likely to rely on COM information in their purchase decisions, which requires developing targeted marketing strategies for these consumer segments. The dynamic between COM and ethnocentrism may precipitate some creative marketing decisions, particularly in emerging markets. For instance, product strategies may benefit from “hybrid” approaches where design, production, or assembly may be done in the emerging market country (see Cilingir & Basfirinci, 2014; Hamzaoui-Essoussi & Merunka, 2007). Such an approach will likely appease most of the ethnocentric consumers.

In dealing with consumers in Turkey, marketers should also note the greater reliance on brands as indicators of product quality. Another practical insight into the psychology of Turkish consumers is that, compared to their American counterparts, they gave lower ratings to retailers’ performance in ensuring product quality. In light of this finding, retailers who seek to enter the market of Turkey might be advised that they have a potential to differentiate from the existing competitors by providing superior exchange and return policies.

One of the limitations of our study is the use of convenience samples, as opposed to probabilistically drawn national samples which are preferable for generalizability. For example, COM use by the predominantly urban, highly educated, and affluent respondents in our dataset from Turkey might be different from that of the poorer and less educated residents of rural Turkey. Similarly, the COM-related data was collected in the Pacific Northwest of the U.S.A. by interviewing members of fairly affluent households as well. In this sense, the two samples were demographically similar. However, as we discussed earlier, in the Results section of this paper, even though the use of convenience samples might have biased the results of this study, the direction of this possible bias likely resulted in a more stringent test for the hypotheses of our study, thus increasing the level of confidence in the reported findings.

Further research is also needed in order to more precisely pinpoint the factors accounting for greater reliance on COM information in Turkey. We proposed that increased reliance on COM and brand information cues is due to greater use of brands for value-expressive purposes, lower levels of consumer expertise, shorter history of market development, as well as fewer product quality assurances, in emerging markets versus developed markets. Another possible culprit is the greater score of Uncertainty Avoidance in Turkey, as opposed to the U.S.A. Although these assumptions are supported by the secondary data from the extant research, most of the hypothesized explanations were not directly tested in present research due to the need to limit the length of the questionnaire in our post-purchase interview. This did not allow for measuring a number of variables of potential interest that could help to explain the observed results. Future studies might be able to address these research opportunities.

Other directions of potential future research could include understanding whether heightened attention to the COM information that was documented in this study represents a temporary artifact, a fleeting stage in the market development or this is a phenomenon which will be affecting consumer behavior for the years to come. Collecting the data from a range

of emerging markets at different stages of economic development might help to answer this question.

As stated earlier, consumers' ratings of COM importance and brand importance as quality cues were linked by a significant positive relationship. One plausible explanation for such data pattern might involve the country-of-manufacture becoming a part of the brand schema for some, if not for all brands. Thorough investigation of the relationship between the COM and the brand constructs and developing understanding of the psychological mechanism of COM information utilization might represent a viable research direction. Findings of the proposed future extensions of this present study can be useful for international marketing managers involved in developing strategies for some of the fastest growing markets of today, the emerging markets.

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APPENDIX

Country of Manufacture Importance

1. The "made in" information is the best indicator of product performance.
2. It is important to know in what country the product was made.
3. I usually pay attention to the "made in" information on products' packaging.

Brand Importance

1. I rely on brand names and on my knowledge about the brands as indicators of quality.
2. A strong brand name provides all the assurance you need that the product will perform well.
3. What a brand says about its performance is usually true.

Retailers' Role as Guarantors of Quality

Most retailers do a good job selecting good quality products sold by this retailer.

THE EVOLUTION OF SERVICE-DOMINANT LOGIC AND IT'S IMPACT ON MARKETING THEORY AND PRACTICE: A REVIEW

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ABSTRACT

The purpose of this article is to provide a chronological perspective on the growth and development of service-dominant (SD) logic within marketing. The authors discuss the growth and evolution of this approach to understanding the theory and practice of marketing, and also provide some thoughts on the future of SD logic from several different perspectives.

Keywords: *Service-Dominant (SD) logic, general theory of marketing*

The basis of the service-dominant (S-D) perspective has its genesis as a seminal article published in 2004 by Lusch and Vargo in the *Journal of Marketing* entitled “Evolving to a New Dominant Logic for Marketing.” The article sparked a great deal of interest which led to considerable concurrence, debate, dialog, and inquiry. It generated so much interest that Ruth Bolton, editor of the *Journal of Marketing* requested, and published responses to the article by seven prominent marketing scholars (Day et al., 2004). This led these two authors to edit a book *The Service-Dominant Logic of Marketing: Dialog, Debate and Directions* (2006) which expanded the discussion to include 50 scholars.

Further discussion of the concept occurred at the *Otago Forum on Service-Dominant Logic* which was held in New Zealand in 2005 out of which Aitken, Ballantyne, Osborne, and Williams (2006) contributed to a special issue of *Marketing Theory*. A special issue of the *Journal of the Academy of Marketing Science* which called for submissions on “new logics” for marketing primarily attracted articles on S-D logic, including a follow-up article by Vargo and Lusch (2008) titled “Service-dominant logic: continuing the evolution” which further refined, clarified and updated their seminal article’s foundational premises (FP). The interest in S-D logic continued with a special issue of the *Journal of Business Market Management* (Vargo & Lusch, 2010) based on proceedings from a relationship marketing conference held in Berlin in 2009. Lusch and Vargo (2012, 2011) continue to evangelize the S-D movement proclaiming it has profound implications for development of theory and the advancement of both marketing science and marketing practice.

S-D logic and its FPs in some ways represent the convergence of several schools of relatively recent marketing thought, i.e., relationship marketing, marketing orientation, etc. The authors would like to begin with a brief primer on the development and the basic tenets of S-D logic in the context of the evolution of marketing thought.

EVOLUTION OF MARKETING THOUGHT

Vargo and Lusch (2004) began their seminal article with an historical perspective of the evolution of management thought framed in the schools of thought as outlined in Sheth, Gardner, and Garrett’s *Marketing Theory Evolution and Evaluation* (1988). This section will highlight the historical evolution of marketing thought which has led to the development of both G-D logic and S-D logic.

The Commodity, Functional, and Managerial Schools

In the early 1900s, the *commodity school* emerged and was grounded in classical economics (Marshall, 1927; Shaw, 1912; Smith, 1904). The commodity school (Sheth et al., 1988) focused on the exchange of commodities (Copeland, 1923), retailing, and other marketing organizations which created time, place, ownership, possession, and other utilities which facilitated exchange (Cherington, 1920; Nystrom, 1925). At about the same time, the *functional school* (Seth et al., 1988) which focused on activities that were needed to facilitate marketing transactions emerged. Shaw (1912) is credited with developing the first classification of marketing functions (Seth et al., 1988). Weld (1916) offered an alternative classification system. By the mid-thirties, Ryan (1935) researched and found that more than 52 different functions had been identified by various authors. Fullbrook (1940) was critical of the functional school which prompted an improved functional classification system by McGarry (1950). Seth et al., (1988) states the functional school was the impetus for the '4Ps' which were popularized by McCarthy (1960).

In the 1940s and 1950s, *managerial economics*, a new direction for economics, was forged by Joel Dean and William Baumol (Seth et al., 1988). Scholars of economics began to advocate a similar direction for the field of marketing. Following suit, "management" started to be used as an adjective with marketing and the *marketing management school* emerged. Its premise is on managing the marketing function and the importance or focus should be on the customer. Many seminal articles which introduced what now appear as marketing principles began to be written by such notable authors as Drucker (1954), McKitterick (1957), Levitt (2004), Borden (1964), McCarthy (1960), and Kotler (1977). The *marketing concept* (McKitterick, 1957), *marketing myopia* (Levitt, 2004), *marketing mix* or '4Ps' (Borden, 1964; McCarthy, 1960), *market segmentation* (Smith, 1956), *product life cycle* (Levitt, 1965), *price skimming* and *penetration pricing* (Dean, 1950) and others came out of the managerial school. Vargo and Lusch (2004) summarized managerial school marketing "as a decision-making activity directed at satisfying the customer at a profit by targeting a market and then making optimal decisions on the marketing mix, or '4Ps'" (p. 1).

Interactive-Noneconomic Schools

Beginning in the 1980s, marketing thought began to drift from a logic based on the '4Ps' and neoclassical economics (Vargo & Lusch, 2004). Seth et al., (1988) has categorized most of these new directions in logic as *interactive-noneconomic schools of thought* and include the *organizational dynamics*, *systems*, and *social exchange schools* of thought. New marketing concepts (Vargo & Lusch, 2004) that have emerged out of these schools include *market orientation* (Kohli & Jaworski, 1990; Narver & Slater, 1990), *relationship marketing* (Berry, 1983; Duncan & Moriarty, 1998; Gummesson, 1994, 2002; Sheth & Parvatiyar, 1995), *quality management* (Hauser & Clausing, 1988; Parasuraman, Zeithaml, & Berry, 1988), *supply and value chain management* (Stern, 1969; Normann & Ramirez, 1993; Srivastava, Shervani & Fahey, 1999), *resource management* (Constantin & Lusch, 1994; Day, 1994; Dickson, 1992; Hunt, 2000; Hunt & Morgan, 1995), and *networks* (Achrol, 1991; Achrol & Kotler, 1999; Webster, 1992).

A major development of the 1980s was the introduction of a controversial sub-discipline of *services marketing* (Rust, 1998; Gummesson, 1995), which morphed out of the overarching emphasis placed on goods, or G-D logic (Shostack, 1977; Dixon, 1990). This manifested itself in the beginning of a shift in the dominant view of marketing from being goods-based to one that was service-based. Gummesson, Lusch, and Vargo (2010)

highlighted that the G-D logic failed to provide a platform for the services marketing sub-discipline which was driven by the growth in the services economy. Key ideas like the differences between goods and services emerged including the IHIPs, i.e., *intangibility*, *heterogeneity*, *inseparability*, and *perishability* (Zeithaml, Parasuraman, & Berry, 1985) Citation) and the *pure goods-pure services continuum* (Shostack, 1977).

Vargo and Lusch (2004) are quick to point out that a service-based view is different from some themes in services marketing such as the concepts of IHIPs, value added services, or service industries. Vargo and

Lusch (2004) further define service as “the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself” (p. 2). Based on their expanded, more inclusive definition of service, they argue that service-centered dominant logic is applicable to all offerings, including tangibles.

Vargo and Lusch (2004) summarized the concurrence of several marketing authors in the 1990s who suggested that marketing was in need of a paradigm shift. These authors included Webster (1992), Rust (1998), Day and Montgomery (1999), Achrol and Kotler (1999), and Sheth and Parvatiyar (1995). In the next section, the shift from a G-D logic to a S-D logic will be developed.

THE SHIFT FROM G-D LOGIC TO S-D LOGIC

G-D Logic versus S-D Logic from a Resource Perspective

To understand the shift from G-D logic to S-D logic, Vargo and Lusch (2004) articulate that one’s view of resources has to be re-oriented from what use to be viewed as resources. Historically, resources were viewed as tangible things which man used (Malthus, 1798). The value of tangible goods was based in classical economic terms of land, labor, and capital (Smith, 1904). Tangible goods represent outcomes of production and distribution processes that add value to a consumable good (Shaw, 1912; Shaw, 1916; Vargo & Lusch, 2004). The new view, according to Vargo and Lusch is “resources are *not*: they *become*” (p. 2). Constantin and Lusch (1994) defined the two types of resources. One is known as *operand*, or tangible goods. In a G-D logic, operand resources are the primary source of competitive advantage (Vargo & Lusch, 2004). The other type of resource is *operant*, or skills and knowledge, i.e., technology which effect operand resources. Operant resources tend to be invisible and intangible similar to Day’s (1994) linking of market sensing capabilities with customer linking capabilities, often leading to a competitive advantage. A S-D logic recognizes operant resources as a marketing organization’s essential resources, or competitive advantage and changes how the S-D logic perceives and interacts with exchanges, markets, and customers. Vargo and Lusch (2004) identified six differences between G-D logic and S-D logic with respect to operand and operant resources in the context of the primary unit of exchange, role of goods, role of customer, determination and meaning of value, firm-customer interaction, and source of economic growth.

Aspects of G-D Logic

In G-D logic, “customers, like resources, became something to be captured or acted on, as English vocabulary would eventually suggest; we ‘segment’ the market, ‘penetrate’ the market, and ‘promote to’ the market all in hope of attracting customers” (Vargo & Lusch, 2004, p. 2). Vargo and Lusch (2004) indentify five aspects to the G-D logic: 1) economic activity is to make and distribute things that can be sold, 2) utility and value is embedded in goods and must offer a competitive advantage, 3) firms manipulate the marketing mix to

maximize profits, 4) maximum control and efficiency is achieved through standardization and production away from the market, and 5) goods can be inventoried until demanded (p. 5). A G-D logic limits marketing to a function as well as to the development of marketing strategy (Noble, 1999; Noble & Mokwa, 1999; Vargo & Lusch, 2004; Vorhies & Morgan, 2003).

Aspects of S-D Logic

Conversely, Vargo and Lusch (2004) identify four aspects of S-D logic: 1) core competences are the source of competitive advantage, 2) efficiency or effectiveness is obtained through developing relationships that benefit these competences, 3) customers are co-producers of customized, competitive offerings, and 4) financial performance is the marketplace's feedback which leads to continuous firm improvement (p. 5). As such, they assert that the S-D view comprehends, or is inclusive of the G-D view. S-D logic is aligned with *resource-advantage theory* and *core competency theory* (Hunt, 2000; Prahalad and Hamel, 1990; Vargo & Lusch, 2004). A S-D logic does not limit marketing to a function; it places marketing at the center of the creation of a firm's marketing strategy. Focusing on core competencies, firms must work cross-functionally within the organization as well as inter-organizationally across network partners (Prahalad & Hamel, 1990).

Vargo and Lusch (2004) argue that S-D logic is *market driven* (Day, 1999) and *customer centric* (Sheth, Sisodia, & Sharma, 2000) and that the continuous improvement aspect of the logic is consistent with Day's (1999) argument for thinking in terms of *value cycles* rather than *linear value chains*.

Based on the logical arguments presented above for the support of the S-D logic perspective, the discussion in the next section will turn to the foundational premises (FP) of the "emerging dominant logic" (Vargo & Lusch, 2004, p. 6). Taken together, the FPs and the six differences regarding the emphasis on operand versus operant resources between G-D logic and S-D logic mentioned above "present the patchwork of the emerging dominant logic" (Vargo & Lusch, 2004, p. 6).

Foundational Premises of Service Dominant Logic

Vargo and Lusch's (2004) seminal article and subsequent book (2006) developed nine FPs to serve as a conceptual framework for the structure of S-D logic in the context of modern developed markets. Claiming that they do not own S-D logic, Vargo and Lusch (2008) would like S-D logic to evolve toward the development of theory and view it as an "open source" process. As such, based on comments received from the original article and book, they refined and added to the FPs in their follow up article, "Service-dominant logic: continuing the evolution" (2008). The discussion which follows incorporates the modifications and includes the revised and additional FP.

FP₁: Service is the Fundamental Basis of Exchange

In G-D logic the primary unit of exchange is goods and is based on classical economics. Several scholars have called for a new way of looking at units of exchange. Alderson (1957) called for a "marketing interpretation of the whole process of creating utility" (p. 69); not utility in and of itself. Based on Levitt's (2004) marketing myopia discussion, Shostack (1977) pleaded for a new conceptual framework that did not dichotomize goods and services. FP₁ addresses these concerns.

Vargo and Lusch's (2004, 2006) original FP₁ was "The application of specialized skill(s) and knowledge is the fundamental unit of exchange" (p. 6). Under the current market phenomena, they defined the application of operant resources, or knowledge and skills as

becoming the basis for all exchange. Since their definition of “service” is the application of knowledge and skills for another party’s benefit, service is what is exchanged. Based on feedback from Ballantyne and Varey (2006), ‘unit’ was replaced with ‘basis.’ Ballantyne and Varey suggested ‘unit’ was historically related to G-D logic. Vargo and Lusch (2008) concurred.

FP₂: Indirect Exchange Masks the Fundamental Basis of Exchange

As industries have evolved from cottage to large vertically integrated sophisticated organizations in both the manufacturing and services sectors, an individual’s functions, through the division of labor, have become microspecialized and the exchange process monetization (indirect exchange). Vargo and Lusch (2004) argue that this masks the fundamental unit of exchange; “money, goods, organizations, and vertical marketing systems are only the exchange vehicles” (p. 8). Driven by production efficiencies, micro specialists have led to more individuals becoming further separated from customers. Micro specialists are merely an isolated part of the production or service delivery process and often lack a view of the entire process. And, since micro specialists are indirectly compensated through salary paid by the organization, they do not have “customers” (Vargo & Lusch, 2004). As Vargo and Lusch (2004), and others (Hauser & Clausing, 1988) have observed, this leads to degradation in quality to both internal and external customers. The *total quality management* movement has emerged to resolve the quality problems that are associated with microspecialization (Deming, 1982; Vargo & Lusch, 2004).

The word ‘unit’ was changed from the original FP₂ to ‘basis’ for the same reasons given above in FP₁.

FP₃: Goods are Distribution Mechanisms for Service Provision

Initially, marketing focused on distribution of commodities and later the exchange of goods (Alderson, 1957; Shaw, 1916; Vargo & Lusch, 2004). As Vargo and Lusch (2004) point out, the market is now centered on the application of “specialized knowledge, mental skills, and to a lesser extent, physical skills” (p. 8). Furthermore, “knowledge and skills can be transferred . . . , or (3) indirectly by embedding them in objects” (p. 9). Several marketing thinkers have evangelized this concept including Normann and Ramirez (1993), Norris (1941), Prahalad and Hamel (1990), Kotler (1977), Gummesson (1995) and Hollander (1979). “People often purchase goods because owning them, displaying them, and experiencing them (e.g. enjoying knowing that they have a sports car in the garage, showing it off to others, and experiencing its handling ability) provides satisfaction beyond those associated with the basic functions of the product (e.g. transportation)” (Vargo & Lusch, 2004, p. 9). Adopting this perspective, goods serve as a vehicle around which operant resources are exchanged with the consumer to satisfy higher order needs.

FP₄: Operant Resources are the Fundamental Source of Competitive Advantage

“Knowledge is the fundamental source of competitive advantage” (Vargo & Lusch, 2004, p. 9). ‘Operant resources’ replaced ‘knowledge is’ in the most current model (2008). Since service is the fundamental basis of exchange, it follows that the application of specialized skills and knowledge, or operant resources becomes one’s competitive advantage. This premise is consistent with the development of economic (Mokyer, 2002; Capon & Glazer, 1987; Nelson, Peck, & Kalachek, 1967) and marketing thought (Hayek, 1945; Hunt, 2000; Dickson, 1992; Quinn, Doorley, & Paquette, 1990; Barabba, 1996). Further, Vargo and Lusch (2004) state “knowledge as the basis for competitive advantage can be extended to the

entire supply chain” (p. 9) which is consistent with similar thoughts put forth by Day (1994), Evans and Wurster (1997), and Normann and Ramirez (1993).

This FP also supports the evolving role of the marketing function within organizations from an historical functional role (Moorman & Rust, 1999) to a strategic role consistent with current marketing thought (Varadarajan, 2010; Webster, 1992; Day, 1994). Srivastava et al., (1999) state that there are “three core business processes: 1) product development management, 2) supply chain management, and 3) customer relationship management” (p.168). In the authors’ opinion, all three processes are the domain of strategic marketing management.

FP₅: All Economies are Service Economies

Historically, economies have been measured by output (Smith, 1904). To increase output, firms focused on efficiency, primarily through microspecialization. Microspecialization on both a firm and a macro level has led to an increase in outsourcing. Tasks that historically have been performed as inputs of production are now outsourced skills. Vargo and Lusch(2004) contend that many of these outsourced functions are now classified as services and have become part of the supply chain. At the macro level, the trend toward specialized outsourced skills, or service which is exchanged, has essentially moved developed economies toward a service economy. ‘Services’ in the plural was changed to ‘service’ (2008) to more accurately reflect service as a process.

FP₆: The Customer is Always a Co-Creator of Value

The original FP₆ was “The customer is always a co-producer.” (Vargo & Lusch, 2004, p. 10). Semantically, ‘co-producer’ had connotations of the G-D logic (Vargo & Lusch, 2008). In G-D logic, the customer is viewed as a target for the purchase and consumption of the produced goods. The firm amalgamates most of the microspecialized processes of production away from the customer to achieve “maximum manufacturing efficiency” (p. 18). Manufacturing efficiency often conflicts with “marketing efficiency and effectiveness” (p. 11).

Being marketing efficient and effective is predicated on being market orientated, customer centric, and customer responsive and is a normative goal for modern marketing constructs (Drucker, 1954; Kohli and Jaworski, 1990; Levitt, 2004; Narver & Slater, 1990; Vargo & Lusch, 2004). This marketing and customer orientation has led to an objective of meeting customer needs and anticipating future needs. In a marketing orientation, production is a means to an end as explained in the FP₃ goods are distribution mechanisms for service provisions discussion above. Almost all tangible products have some degree of embedded services (Vargo & Lusch, 2004). As a result, there is an increase in the demand of real time marketing that “integrates mass customization and relationship marketing” (Vargo & Lusch, 2004, p. 11). In a S-D logic, the customer is a co-creator of value of the entire service chain and can be viewed as an operant resource. In G-D logic the customer is the target of the firm and subsequently viewed as an operand resource.

FP₇: The Enterprise Cannot Deliver Value, But Only Offer Value Propositions

Originally, FP₇ was “The enterprise can only make value propositions.” (Vargo & Lusch, 2004, p. 11). The original FP₇ was highly criticized (Grönroos, 2008) or at least misunderstood as Vargo and Lusch (2008) remarked. They felt that FP₆ ‘value co-creation’ and FP₈ ‘relational’ implied that value was created jointly by the enterprise and the customer, or service beneficiary. The revised FP₇ more clearly communicates that “enterprises can offer

their applied resources for value creation and collaboratively (interactively) create value following acceptance of value propositions, but cannot create and/or deliver value independently (Vargo & Lusch, 2008, p. 7).

In contrast, G-D logic, based on the classical economic perspective, is that in addition to value added and embedded through production, marketing provides a value and utility added function through the manipulation of the marketing mix or '4Ps' (Vargo & Lusch, 2004).

FP₈: A Service-Centered View Inherently Is Customer Oriented and Relational

Vargo and Lusch (2004) proclaim that the S-D logic is "interactivity, integration, customization, and co-production" (p. 11). They (Vargo & Lusch, 2008) added 'inherently' to FP₈ to avoid confusion to whether S-D logic being customer oriented or relation is normative, or a positive statement. They conclude the clarification with the refined FP makes it positive statement. In G-D logic, the firm and its customers are separate entities. S-D logic involves a firm doing things with its customers, or co-creation, and provides a balanced-centricity.

In G-D logic, industrial economies morphed through marketing philosophies of the *production concept*, *product concept*, *selling concept*, and finally the *marketing concept* (Kotler & Lane, 2007). Until the emergence of the marketing concept, these concepts hide the inferred relational aspects that existed in the pre-industrial age: "Marketing, engineering, and manufacturing were integrated-in the same individual. If a knight wanted armor, he talked directly to the armorer, who translated the knight's desires into a product, the two might discuss the material-plate rather than chain armor-and details like fluted surface for greater bending strength. Then the armorer would design the production process." (Hauser & Clausing, 1988, p. 64).

To the contrary, S-D logic is "participatory and dynamic" (Vargo & Lusch, 2004, p. 11), it hinges upon co-creation through an iterative learning process. S-D logic is in alignment with the evolution of marketing philosophies discussed in the previous paragraph which have transitioned from a "product and production focus to a consumer focus and, more recently, from transaction focus to a relationship focus" (Vargo & Lusch, 2004, p. 20). The authors are also of the opinion that it supports (and perhaps was the impetus for) the new *holistic marketing concept* theme being advocated by Kotler and Lane (2007).

FP₉: All Social and Economic Actors are Resource Integrators

In 2006, Lusch and Vargo added a ninth fundamental premise in their book on S-D logic which was originally phrased "Organizations exist to integrate and transform micro-specialized competences into complex services that are demanded in the marketplace" (p. 283). Immediately, they recognized the limitations of the term organizations.

The premise addressed the role of amalgamating and integrating resources. Vargo and Lusch (2006) asserted that integration motivates and facilitates economic exchange. Initially aimed at the micromarketing structural role of integrator, Vargo and Lusch (2006) realized that this integration function is "equally applicable to individuals and households (Arnould, 2006), or more generally all economic entities are resource integrators" (p. 283). Since individuals, households, and organizations can be resource integrators, Vargo and Lusch (2008) have borrowed, although are not committed to, the term "actors" from the IPM Group and others (Hakansson & Snehota, 1995) to identify all parties to exchange.

Lusch and Vargo (2006) contend that micro-specialization requires integration or the assembling of resources to create service people demand and "implies the context of value

creation is in networks of networks” (Vargo & Lusch, 2008, p. 7) which in turn satisfies performance requirements. Lusch and Vargo (2006) further state that FP₉ just might “provide a framework for a theory of the firm” (p. 53).

FP₁₀ Value Is Always Uniquely and Phenomenologically Determined By the Beneficiary

Finally, Vargo and Lusch (2008) admitted that the experiential nature of value was not adequately addressed in their seminal article on S-D logic (Vargo & Lusch, 2004). It was added in Vargo and Lusch (2008) and they chose to use the word *phenomenological* over experiential, as they contended experiential might be interpreted by some as an experience like ‘Disneyland’ (p. 9).

Argument for the Shift towards a S-D Logic with a Word Of Caution

To this point, the logic that led to the development of the S-D framework of Vargo & Lusch (2004, 2006, 2008) in the context of the historical marketing thought has been presented. Logical arguments for why it should replace the G-D logic of the last hundred or more years have also been addressed. In this section, an argument for why these authors are in agreement with Lusch and Vargo’s (2012) assertion that marketing should shift from a G-D logic to a S-D logic, not replace G-D logic, and be accepted by the marketing world.

A Need for a New Paradigm

There appears to be a need for a new framework or paradigm in marketing (Shugan, 2004). There has been a growing dissatisfaction among marketing scholars of the ‘4Ps.’ Day and Montgomery (1999) have dismissed it as “merely a handy framework” (p. 3). As Vargo and Lusch (2004) point out, the G-D logic is limited by a product-centric focus. The ‘4Ps’ do not provide a framework for explaining many of the new thoughts in marketing including market orientation (Jaworski & Kohli, 1993; Narver & Slater, 1990), relationship marketing (Morgan & Hunt, 1994; Morgan & Hunt, 1999), supply chain management (Lambert & Garcia-Dastugue, 2006), integrated marketing communications (Schultz, 2005), and marketing strategy (Varadarajan, Jayachandran, & White, 2001).

Modern Marketing Themes Need an Explanatory Framework Now and In the Future

Since S-D logic’s introduction in 2004, it has been well received by marketing scholars as an alternative perspective (Webster, 2006). Hunt (2004) commented that it is “finely crafted . . . and logically sound” (p. 22) while Rust (2004), touted it as “brilliantly insightful” (p. 23). Others have commented on its historical accurateness and its integration of historical marketing thought (Wilkie & Moore, 2003; Wilkie & Moore, 2006). Day (2004) and Rust (2004) are in agreement that S-D logic is contextual with the changes in marketing that are being driven by technology and knowledge and the information revolution. Rust (2004) rationalizes the shift towards service should accelerate as information technology advances.

Marketing scholars have also responded that S-D logic provides a framework for explaining many new thoughts in marketing highlighted in the previous paragraph (Day, 2004). Jaworski and Kohli (2006) assert that S-D logic more effectively explains market orientation while Oliver (2006) and Day (2006) supports its focus on co-creation of value. Vargo (2010) reasserts that S-D provides a “macro lens for the development of this market view” (p. 378). Rust (2004), and others (Deighton & Narayandas, 2004; Flint & Mentzer, 2006; Lambert & Garcia-Dastugue, 2006) see S-D logic as linking marketing and supply

chain management and reflective of changes occurring in supply chain management while Duncan and Moriarty (2006) believe S-D logic can operationalize integrated marketing communications. Based on the above discussion, it appears that Vargo and Lusch's (2004, 2006, 2008) S-D logic is poised to chart a new direction for the development of marketing thought as it appears to have met a need, or a void, and has garnered initial acceptance in the academy.

Support and Acceptance by the Marketing Academy

While generally supportive of S-D logic, many scholars have taken a wait and see attitude. Ambler (2006), Hunt (2004), and Woodruff and Flint (2006) appear to be pragmatic and are waiting for evidence of the validity to which Webster (2006) has commented: "shape of the new paradigm, [is] anything but certain" (p. xiii). Levy (2006) is unclear whether it will move academics and practitioners to view customers as the focal point while Day (2004) wonders if firms will replace G-D logic with S-D logic. Shugan (2004) has remarked that S-D Logic is currently abstract.

S-D logic is not a radical new idea (Deighton & Narayandas, 2004; Hunt, 2004; Prahalad & Ramaswamy, 2004). Egan (2009) has observed the S-D logic is basically a restatement or bundling of existing ideas in one conceptual paradigm. With regard to FP₁, he notes that Levitt (1972) introduced, and others put forth (McKenna, 1991; Pels, 1999) the concept that exchange was a service. FP₃ notion that goods are a distribution mechanism for service provision is similar to Kotler's (1977) assertion that "a physical object is a means for packaging a service" (p. 5) and the Nordic School of Service Management's view of goods and services as service offerings (Grönroos, 1999). FP₆ that the customer is always a co-creator of value was previously advocated by Buttle (1997) and Vargo and Lusch's (2008) late added FP₁₀ that "value is . . . determined by the beneficiary" (p. 9) was previously espoused by Gordon (1998).

Prahalad and Ramaswamy (2004) appear to be S-D logic's biggest critics. In addition to proclaiming that it is not new, they propose a dominant logic that replaces the firm centrality of both G-D and S-D logic with *experience-centric* logic. The heading of this section includes 'a word of caution.' The role of other logics, including G-D logic in the development of marketing thought will be discussed below.

Most marketing scholars are in various degrees of general agreement with S-D logic as a framework for further discovery and believe that it holds promise. These authors argue that perhaps the reason that S-D logic has received so much support and acceptance from marketing scholars is that it is not radically new. Borrowing from attitude change and social judgment theory (Solomon, 2011) terminology, S-D logic appears to be within the marketing academy's latitude of acceptance.

Toward A General Theory of Marketing

The goal of marketing, as a science, is to explain, predict, and understand marketing phenomena according to Hunt (2002). To date, a general theory of marketing remains elusive (Hunt, 2002; Lusch & Vargo, 2006; Wilkie & Moore, 1999). Many marketing scholars believe that the G-D logic or classical economic base has been a constraint towards the development of a general theory of marketing (Hunt, 2002; Lusch & Vargo, 2006; Wilkie & Moore, 1999).

G-D logic did provide the framework for the development of Alderson's (1957, 1965) *functionalist theory of market behavior*. Alderson's theory (1965) is based on the dyad premise of households as the subsystems that form the basic consuming units and firms as the subsystems that produce goods. As Hunt (2002) points out, Alderson(1957) notes that "firms

evolve in a society when specialization of labor results in removing the production function for some goods from the household” (p. 39). Furthermore, although firms are profit driven as “they do so as if they had a primary goal of survival” (p. 54). Until the development of Morgan and Hunt’s *Resource-Advantage Theory* (R-A), Alderson’s theory (Hunt, 2002) was considered the closest thing to a general theory of marketing. Morgan and Hunt have incorporated key concepts and generalizations from the Alderson’s functionalist theory of market behavior and have integrated them into R-A theory (Hunt, 2002).

As Karpen, Bove, and Josiassen (2008) explain, S-D logic is grounded in R-A theory; Hunt (Hunt & Madhavaram, 2006) concurs. A premise of R-A theory is that resources (which include informational and relational) influence a firm’s performance and they are not equally accessible or distributed among firms. Heterogeneous resource pools which are firm unique and difficult to imitate lead to “superior” value creation relative to the competition. Demand is dynamic and heterogeneous across and within industries. As such, organizations focus on developing higher order core competencies relative to the competition to meet their objective of superior financial performance. S-D logic has a lot of the same themes. Operant resources like knowledge and special skills are the primary source of competitive advantage (Vargo & Lusch, 2004).

S-D logic is grounded in R-A theory; however, S-D logic is not theory. It does however provide a framework from which to conceptually approach marketing research and practice which may lead to the development of theoretical models with operationalized constructs and theoretic relationship between these constructs. Lusch and Vargo (2006) assert S-D logic is consistent with core competency theory and R-A theory and has the potential to serve as a foundation for a general theory of marketing, if not the firm. Others are optimistic as well (Bolton, 2006).

As previously pointed out, Vargo and Lusch (2004) view S-D Logic as an open source code. Based on its initial popularity and acceptance by the marketing academy, it has the potential to spark research interests of marketing scholars, building on Alderson’s (1957, 1965) and Morgan and Hunt’s theories and move as Hunt (2002) has titled a chapter in his book “toward a general theory of marketing” (p. 248).

A Word of Caution

As mentioned earlier, S-D logic has received a tremendous amount of attention in marketing circles. In the opening paragraph of this section, emphasis was placed on the word ‘shift’ in affirming agreement with Lusch and Vargo’s (2012) position. Some authors have provided rhetoric which references S-D logic replacing G-D logic. Using the word replace may imply a dichotomous choice of logics. Egan (2009) warns of the “considerable dangers when new ideas claim a ‘dominant’ position” (p. 3). Ghoshal (2005) contends that the development of social science theory often times is self-fulfilling and if it gains momentum alters behaviors.

Egan (2009) suggests that individuals who understand the complexity of marketing thought should be disturbed by claims of one dominant thought (Brown, 2007). Stauss (2005) notes that G-D logic has made a positive contribution of value and insight of marketing thought and suggests that progress in the development of marketing theory would benefit by highlighting the differences in logics rather than abolishing them. Egan (2009) warns of getting into a scholarly straitjacket over S-D logic. While he applauds Vargo and Lusch for developing a framework for new and innovative ideas, he also counters with “any definition which is phrased in universal terms risks narrowing rather than widening the overall debate. Acceptance of the idea of multiple, rather than dominate, paradigms offers, potentially, a

more fruitful way forward” (p. 6). Similarly one can question whether there is room for Prahalad and Ramaswamy (2004) experience-centric logic too.

In summary, building on the logical arguments for the development of S-D logic, this section has articulated arguments for supporting Lusch and Vargo’s (2012) evangelization that the logic of marketing should shift from a G-D to S-D. The premise of the argument includes the idea that there has been a need for a new framework or paradigm, modern marketing themes need an explanatory framework now and the future, and S-D logic has gain both the attention and is generally supported by the academy. The argument also included a word of caution. The next section will discuss implications for the future of marketing in the context of a shift in dominant logic to S-D.

A S-D Logic and the Future of Marketing

In Vargo and Lusch’s (2004) seminal article the authors discussed several themes regarding the future of marketing in the event of a paradigm shift. Other authors have as well (Finney, Spack, & Finney, 2011). This section will explore some of these themes beginning with those predicted by Vargo and Lusch (2004).

Future of Marketing in Practice

Under a G-D logic, service marketing pioneers Zeithaml, Parasuraman, and Berry (1985) suggested that the qualities of manufactured goods e.g., tangibility, standardization, etc., were normative qualities. Services marketers attempted to make services have qualities similar to manufactured goods. Vargo and Lusch (2004) argue that these qualities add marketing costs and are neither valid nor desirable. They predict that under a S-D logic, these qualities will lose their desirability and the emphasis will be on viewing the customer as a co-creator which will lead to less standardization and more customization which will expand the market of offerings.

In a S-D view, Vargo and Lusch (2004) assert that operant resources bundled into gestalt core competencies are paramount in obtaining a competitive advantage. The role of marketing within the firm will change within the firm. It will become less functional and will permeate the entire organization. Srivastava et al.,(1999) contend marketing will be a key player in product development management, supply chain management, and customer relationship management. Marketing will become the core function of the firm. As McKenna proclaimed in 1991, “Marketing is Everybody’s Job” (p. 91). In a S-D framework, everyone’s job will be marketing.

Vargo and Lusch (2004) posit that since the objective of the firm will change from a focus on standardized output to customized solutions, manufacturing capabilities will no longer be a firm’s strength. As a result, in order to be more nimble, there will be an increase in outsourcing. As Day (1994) predicted, firms will have to be both competitive and collaborative and become masters of managing networks or become, as Achrol and Kotler (1999) have coined, network integrators.

Since tangible goods are primarily an appliance for service provisions, Vargo and Lusch (2004) predict that structures of ownership will change. More firms will develop offerings which focus on customer use. More and more customers will simply pay a user fee for the use of the appliance (Hawkin, Lovins, and Lovins, 1999; Rifkin, 2000). Examples of the beginning of this trend, like Carrier leasing ‘comfort’ have been pointed out by Hawkin et al., (1999).

As has already been recognized in services marketing (Lusch, Brown, & Brunswick, 1992; Prahalad & Ramaswamy, 2000) more firms will have an additional competitor; the potential customer. Customers will weigh the option of doing things themselves or

purchasing the offering in the marketplace. This is because a shift to a S-D logic will lead to more organizations developing offerings which will allow potential customers to engage in self-service.

At the same time, Vargo and Lusch (2004) predict that a S-D logic will lead to further microspecialization and consumers will become more dependent on the market. Consumers will attempt to domesticate the market by limiting the number of customer relationships they have. Rifkin (2000) predicts that individuals and organizations will be attracted to firms who bundle or provide comprehensive, or turn-key solutions. A major difference in the future will be more customized, rather than standardized, turn-key solutions involving customers in the value creation process.

Vargo and Lusch (2004) predict that the nature of marketing communications will continue to move from being one-way mass communications, or monologue to more of a dialogue. In S-D, customers are part of the co-creation of value and marketing communications will become more of a Q & A. Due to advances in technology, and as we have already seen in the market in the last ten years, Prahalad and Ramaswamy (2000) contend the customers will increasingly become the initiators of dialogue.

Other authors have also offered insight into how a shift to a S-D logic will affect the future of marketing (Finney et al., 2011; Ballantyne & Varey, 2008). Finney et al., (2011) have made some predictions (P) on how the shift to a S-D logic will change the role of marketing practice within the firm and the market place. After firms adopt a S-D logic, Finney et al.'s, first P₁ is that a "greater percentage of top managers will devote time to marketing activities; top management will devote more time to marketing activities" (p. 7). Under a S-D logic, they assert consistent with Vargo and Lusch (2004) that firm's will be more strategically focused on creating customer value. Further support for this prediction is supported by McKenna (1991) and Webster (1992). They point out that Day (1992) and others have voiced concern that the role of marketing within the organization may be subsumed by strategic management.

Wheelen and Hunger (1995) defined strategic management as "that set of managerial decisions and actions that determines the long-run performance of a corporation . . . includes environmental scanning, strategy formulation, strategy implementation, and evaluation and control" (p. 3). If the role of marketing within the firm becomes as Vargo and Lusch (2004) and Srivastava et al.,(1999) predict above, Day's (1992) concerns may very well come to fruition. This is the basis for Finney et al.'s (2011) P₂ which states that "there will be increasing overlap between the domain of marketing and the domain of strategic management; firms will increasingly distinguish between strategic marketing tasks and operational marketing tasks; and, firms will increasingly distinguish between personnel who make strategic decisions and personnel who make operation decisions" (p. 7). These observations are consensual to Vargo and Lusch's (2004). Day's (1992) fears that the strategic role of marketing might no longer be the domain of the marketing department may materialize.

In line with the market orientation literature (Day, 1999; Narver & Slater, 1990; Jaworski & Kohli, 1993) Finney et al., (2011) predict a shift to a S-D view will lead to P₃ "improved firm financial performance" (p. 8). Following micro economic theory, they further predict that improved financial performance will attract competitors, or imitators which in turn will drive down financial performance to the market rate of return with the caveat that superior marketing skills are scarce and S-D logic will lead firms to develop new definitions of marketing which will restore superior financial performance.

Future of Marketing in the Academy

The development of S-D logic came out of the academy and one would be foolish to ignore that if it is to be adopted by practitioners, the academy and its curriculum will have to change to serve as a catalyst for its acceptance in practice. Vargo and Lusch (2004) suggest that the current curriculum does not need to be reinvented but reoriented. The reoriented curriculum will retain and reorient principles of marketing course in the context of the service provision. Traditional concepts under G-D logic will be retained. The marketing strategy course will teach R-A theory as its core, concentrating on the “role of competences and capabilities in the coproduction of value and competitive advantage” (p. 14). A new course will be added to teach cross-functional business process. Promotion or advertising courses will be replaced by integrated marketing communication courses focusing on creating meaningful customer dialogue. The consumer behavior course will be more focused on relationships. Pricing courses will focus on offering value propositions while the channels course will focus on managing value constellations and service flow. Concurrently, they predict executive seminars being offered by business schools with topics similar to the reinvented college curriculum discussion above.

As discussed earlier, S-D logic has been embraced and is generally supported by many scholars as a logical new paradigm from which to approach marketing research. To date, S-D logic has no theoretical models, nor are there defined operationalized constructs supportive of its premises. Day (2006) has commented that S-D logic provides a rich research area where there is much theoretical work to be done. Many marketing and supply chain scholars are optimistic that S-D logic will move the discipline closer toward a general theory of marketing (Bolton, 2006; Lusch & Vargo, 2006). Perhaps if marketing shifts to S-D logic it will drive a substantial amount of scholar productivity in the near future and maybe for many years to come. After all, G-D logic has primarily driven it for the last 100 years.

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THE EFFECT OF SELF-CONSTRUAL ON CONSUMERS LIKELIHOOD AND ATTITUDE TOWARDS SELF-GIFTING

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ABSTRACT

This research explicates the role of self-construal in consumers' attitudes towards and likelihood to self-gift. The empirical evidence presented in the current study demonstrate that the people with Independent Self Construal have a more favorable attitude towards self-gifting and are more likely to self-gift than those with Interdependent Self Construal. Thus, the managers who are marketing their products and brands across the globe cannot standardize the message appeals, which are based on self-gifting. They have to take into account self-construal of the general population in the target country.

Moreover, the results of this analysis provide some direction to marketers as to what appeals they should use. Both groups, Independents and Interdependents are more likely to self-gift in reward scenarios, and less likely in therapy ones. Therefore, marketers should avoid using therapeutic scenarios when trying to encourage self-gifting. In addition, though independents have a significantly more favorable attitude towards self-gifting and are more likely to self-gift than interdependents, the data suggests that they do not think terribly of self-gifts. This, taken together with their positive evaluation of the slogan "one for him, one for me" implies that the right appeal, can encourage interdependents to self-gift as well. More specifically, in light of present study's findings, marketers even in USA should use the slogans and messages that emphasize family and friends and their happiness while targeting people with interdependent self-construal rather than merely using communications that emphasize the worth of the individual, (i.e. You deserve it) only.

INTRODUCTION

"A new name has cropped up on holiday shopping lists: Me" (Mayk, 2003).

The self- gift phenomenon is widely occurring in American society. A recent consumer reports study found that on Black Friday, many consumers were planning on buying gifts for themselves as opposed to friends and family, with as much as 55% of consumers planning to buy electronics for themselves (consumer reports.org). Other research has substantiated the notion that self-gifts are a fairly common and important phenomenon particularly in western consumer behavior (e.g. Faure and Mick, 1993).

Self-gifts, which can be any product that constitutes a form of indulgence, are conceptualized as (1) personally symbolic self-communication through (2) special indulgences that tend to be (3) premeditated and (4) highly context bound (Mick and DeMoss 1990b, p.328).

Marketers have recognized this self-gifting trend in the United States and have directed their product development efforts and advertising messages accordingly. For example, slogans such as "The perfect little thank-me" (Andes candies) present indulgences as personal rewards (Mick and DeMoss, 1990b). In addition, the diamond industry has caught onto the new "me" mood, with slogans like "Your left hand says 'we,' you're right hand says 'me'."

The question then becomes whether the propensity to self-gift is a widespread phenomenon. This has important managerial implications for marketers of self-gifts; particularly those in Western cultures that want to market their products abroad. Specifically, the question of which advertising strategy to pursue- one of customization or standardization arises. In other words, can they use the same “self-gift” message (standardization) that they use in the United States or do they need to develop a more tailored message (customization) for consumers in different countries stressing different benefits. Further, even within the United States, are there people who do not self-gift and who may find these advertisements offensive?

It is well established that people with different cultural backgrounds may behave differently and have different reactions to similar situations. More specifically, research has shown that different cultural identifications have an impact on the way people think, feel, and behave (e.g. Markus and Kitayama, 1991). This research proposes to answer the questions above by investigating the role of self-construal in consumers’ likelihood and attitude towards self-gifting through survey measurement.

A number of studies have investigated various influences on self-gift giving, including self-gift motivations and occasions (Mick and DeMoss, 1990a, 1990b), cognitive processes (Olshavsky and Lee, 1993), materialism (McKeage, Richins, and Debevec, 1993), and attribution of achievement outcomes (Faure and Mick, 1993; Mick and Faure, 1998). Other studies have focused on the nature and functions of self-gifts (e.g. McKeage et al, 1993) and for the self-regulation of moods (e.g. Gould, 1997; Luomala, 1998). Mick and DeMoss (1992) also explored the relationship between the types and qualities of self-gifts and socio-economic factors. Finally, some research has been undertaken to identify the consequences of self-gift giving such as feelings of guilt (Mick, 1993) and compulsive consumption (Shapiro, 1993).

One major gap in this literature however, is that though clearly studying different aspects of self-gifting, the studies mentioned above all assume that everybody self-gifts. All the research was also done in the United States. Our research aims to add to this literature by examining the effect of self-construal on consumers’ attitudes and likelihood to self-gift and thus addressing the role that our culture has on our propensity to self-gift.

Self-Construal and Self-Gifting

Overall, it has been suggested that self-gifts represent a complex class of personal acquisitions that offer intriguing insights on self-directed consumer behavior (Mick and DeMoss 1990b). “Self-gift theory will likely benefit from drawing on additionally relevant psychological research” (Mick and DeMoss, 1990b p. 329) since “with rich and complex qualities, self-gifts provide a window through which consumer behavior can be viewed in some of its most adaptive, dramatic and personal significant forms” (Mick and DeMoss, 1990b p.331).

As demonstrated by its name and definition, one of the predominant aspects of self-gifting is the direct focus on the self. Clearly, if people view the self differently, they will react differently to self-gifting. Taken together with the recommendation above by Mick and DeMoss (1990), we propose to draw on the psychological research of Markus and Kitayama (1991) who identified two dimensions of the self that can be used to characterize consumers self-construal as well as explain and identify differences between cultures: independence and interdependence.

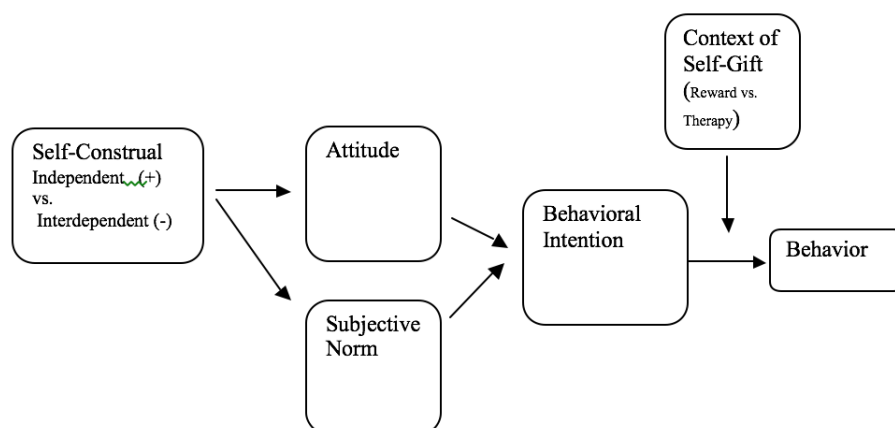
According to Markus and Kitayama, self-construal can be conceptualized by the degree of independence/interdependence that a person possesses. They further state that all people contain both an independent and interdependent self, but that the culture in which

they are bought up in influences which one dominates. For example, Europeans and Caucasian Americans are typically said to be independent because they tend to emphasize the individual whereas people from Asian cultures are typically interdependent because they tend to emphasize the group as more important than the individual. People with independent self-construals strive to develop and express their unique characteristics, whereas people with interdependent self-construals place value on harmonious relationships with others and acceptance in their community. Those with well-developed independent self-construals gain self-esteem through expressing the self and validating their internal attributes, whereas harmonious interpersonal relationships and the ability to adjust to various situations are sources of self-esteem for the interdependent self-construal (Singelis 1994). After reviewing an extensive array of studies, Markus and Kitayama (1991) argue that these independent and interdependent views of the self influence cognition, emotion, and motivation and help to explain individual differences between cultural groups.

The influence of culture on behavior is supported empirically in various studies (e.g. Aaker and Maheswaran 1997). Triandis (1988) presented an explanation on the influence of culture on behavior by using the concept of the self as a mediating variable between culture and individual behavior. He concluded that culture affects behavior both by influencing self-image and by defining situations. It seems reasonable then to propose that consumers' self-construal will have an impact on their attitude and likelihood to self-gift. More specifically, it seems that people with an independent self-construal will be more likely to self-gift, as they tend to have self-benefiting motivations, such as the need to achieve, self-enhance, or affiliate. Conversely, people with an interdependent self-construal will be less likely to self-gift as they tend to derive their motivations from what benefits others and a group as a whole, such as the need to be agreeable to others, to accommodate to their needs, and to restrain one's own wishes or wants.

In short, self-construal as defined by independence versus interdependence is the construct that will be used as a determinant of consumers' attitudes towards self-gifting, since it emphasizes differences of one's view of the self and may influence the cognition, emotion and motivation to self-gift.

FIGURE 1
CONCEPTUAL MODEL



The above model is a modification of the Theory Of Reasoned Action proposed by Fishbein and Ajzen (1975, 1981), who developed this model as an attempt to establish a relationship among beliefs, attitudes, intentions and behaviors. According to the theory, the determinants of a person's behavior is the intention to either perform or not to perform the specific behavior. Due to the difficulties in determining a person's intention directly, the Theory of Reasoned Action (TERA) specified two conceptually independent factors, Attitude and Subjective Norm, that taken together determine intention.

The attitude towards the behavior considers the degree to which a person has about positively or negatively evaluating a specific behavior. The Subjective Norm is determined by the persons normative beliefs. It takes into account the degree to which certain important and influential individuals approve or disapprove of a particular behavior and the persons motivation to comply with the approvals/disapprovals of the important individuals.

To this model we have added a determinant of self-gifting attitude (self-construal) and a moderator to the self-gift behavior (context of the self-gift). These will be discussed in detail in the following section.

It appears that self-gift purchasing may be linked to both cultural and personal values. For example, McKeage, Richins, and Debevec (1993) showed that materialists are more likely to give self-gifts than non-materialists. In addition, self-gift behavior may be particularly linked to cultural beliefs that purchasing and consumption are appropriate to the pursuit of individual happiness (Shapiro, 1993). We propose that self-construal will have an effect on the persons attitude towards self-gifting and towards self-gifting advertisements. More specifically, since people with an independent self-construal place an emphasis on "a) internal abilities, thoughts and feelings, b) being unique and expressing the self, c) realizing internal attributes and promoting ones own goals, and d) being direct in communication" (Singelis 1994 p. 581) and people with an interdependent self-construal emphasize "a) external public features such as statuses, roles and relationships, b) belonging and fitting in, c) occupying one's proper place and engaging in appropriate action, and d) being indirect in communication" their attitude towards self-gifting will reflect these tendencies so that people with an independent self-construal will have a more favorable attitude towards self-gifting and self-gifting advertisements, and people with an interdependent self-construal will have a less favorable attitude towards self-gifting and self-gifting advertisement appeals.

The issue of causality arises with regards to subjective norm and self-construal. It is not clear which one causes the other, however, it is clear that there should be a positive relationship amongst independents and the subjective norm and a negative relationship amongst interdependent and the subjective norm. In other words, the scores should be correlated so that the subjective norm of people with independent self-construal should be high (i.e. people around them view self-gifting positively) and people with interdependent self-construal should have low scores for the subjective norm questions (i.e. people that they admire should view self-gifting less favorably). Based on the model, the attitude and subjective norm will indicate the behavioral intention of the person, therefore, we should find that the behavioral intention of the consumer to self-gift should correspond to their attitude and subjective norm, which is influenced by the self-construal.

In sum:

- H1a People with high independent self-construals will have a favorable attitude towards self-gifting.*
- H1b People with high interdependent self-construals will have a less favorable attitude towards self-gifting.*
- H2a People with high independent self-construals will have a favorable attitude towards "self-gift" ads.*

- H2b People with high interdependent self-construals will have a less favorable attitude towards “self-gift” ads.*
- H3 The subjective norm scores will be positively correlated with independent self-construal and negatively correlated with interdependent self-construal*
- H4a People with high independent self-construals will be more likely to self-gift.*
- H4b People with high interdependent self-construals will be less likely to self-gift*

Self-construal and Self-gift Context

Early research on self-gifts revealed that self-gifts appeared to be acquired within a relatively confined set of circumstances and motivations (Mick and DeMoss 1990a). More specifically, eight contexts for self-gifts were identified based on focus group discussions and prior qualitative survey research (Mick and DeMoss 1990a, 1990b): 1) to reward yourself, 2) to cheer yourself up, 3) because it was a holiday, 4) to relieve stress, 5) as an incentive to reach a personal goal, 6) because it was your birthday, 7) just to be nice to yourself, and 8) because you had extra money to spend (Mick and DeMoss 1992). In their 1992 study, Mick and DeMoss reported that a few qualities were shared among self-gifts across different contexts, these qualities being exciting, fun, and satisfying (Mick and DeMoss 1992), substantiating the indulgence and specialness of self gifts (Mick and DeMoss 1990b).

As mentioned above, eight contexts of self-gifts were identified, however the reward and therapy contexts appear to be the two predominant contexts of self-gifts (Mick and DeMoss 1990a, 1990b, 1992) and are the two contexts that this research will study. In their 1993 study, Faure and Mick suggest testing whether or not there are any differences between the types of self-gifts one buys after a success or after a failure. Mick and Faure (1998) also suggested that therapeutic self-gifts may result from a different type of psychological process than reward self-gifts. In keeping with this train of thought, I propose that the context of the self-gift may play a moderating role in consumers likelihood to self-gift.

More specifically, previous research has shown that when self-gifting, there was a higher frequency of the reward motivation reported by males (Mick and DeMoss's 1990a) and Mick and DeMoss (1992) found that females were more likely to engage in self gift behavior in therapeutic and nice to self-contexts, whereas males were more inclined in situations where the self-gift served as an incentive to reach a goal. Similarly, Markus and Kitayama (1991) suggest that American men and women develop divergent self-construals similar to those observed cross-culturally. Men typically develop an independent self-construal, common in Western cultures, in which representations of others are separate from the self. Similar to Eastern societies, women typically develop an interdependent self-construal, in which others are viewed as part of the self (Cross & Madson, 1997). Taken together, these results point to the following propositions:

- H5a: People with independent self-construals will be more likely to self-gift in reward contexts and less likely to self-gift in therapy contexts.*
- H5b: People with interdependent self-construals will be more likely to self-gift in therapy contexts and less likely in reward contexts.*

METHODOLOGY

To test the above propositions, a survey was distributed to 161 undergraduate students in an Eastern University that measures their self-construal, attitude, subjective norm, and likelihood to self-gift and some other demographic information. The survey can be found in the appendix. The paragraphs below will discuss reliability and validity issues for the material in the questionnaire.

Self-Construct

To measure consumers' self-construct, the Singelis scale (1994) was used (see appendix). Self-construct is "a constellation of thoughts, feelings, and actions concerning one's relationship to others, and the self as distinct from others" (Singelis, 1994, p.581).

This self-construct questionnaire is a 24-item scale that assesses the strength of a person's independent and interdependent self-constructs. Each item is scored on a seven-point Likert scale, ranging from strongly disagree to strongly agree. The questionnaire is comprised of two separate scales, one measuring an independent and the other measuring an interdependent self-construct. As mentioned above, Independent self-construct has a focus on the self, and realizing and promoting one's own personal goals. Interdependent self-construct deals with concern for relationships and one's place within society. The reliability coefficients in the original study for the Independent and Interdependent scales were .70 and .74, respectively. Construct validity was demonstrated in the original study by comparing an Asian American to a Caucasian American sample; the Asian American group was more interdependent and the Caucasian American group was more independent. In addition, many studies have since been done with this scale implying extensive evidence for the construct validity of it (see Gudykunst and Lee, 2001 for a review).

Examples of the items can be found in the table below:

Table 1	
Independence Items	Interdependence Items
I can talk openly with a person who I meet for the first time, even when this person is much older than I am.	Even when I strongly disagree with group members, I avoid an argument.
I do my own thing, regardless of what others think.	I will sacrifice my self-interest for the benefit of the group I am in.
I am comfortable with being singled out for praise or rewards.	I feel good when I cooperate with others.
Speaking up during a class (or a meeting) is not a problem for me.	I would offer my seat in a bus to my professor (or my boss).
I act the same way no matter who I am with.	My happiness depends on the happiness of those around me.
I try to do what is best for me, regardless of how that might affect others.	It is important to me to respect decisions made by the group.
I act the same way at home that I do at school.	It is important for me to maintain Harmony within my group.

We ran a reliability test and found that the alpha coefficients for the independent and interdependent scale items were .76 and .79 respectively, implying good reliability for both scales. We then calculated the average scale scores and did a median split classifying the top half as independents and the lower half as interdependents. The final analysis was done with 60 subjects being classified as independent and 61 subjects as interdependent.

Attitude and Subjective Norm

We developed a scale to measure the attitude of consumers to self-gifts. Several PhD students were consulted to make sure the questions were capturing the construct of attitude to

self-gifting. In addition, a pretest was conducted with 6 undergraduate students who completed the questionnaire and were asked if any items were confusing or unclear. After taking their responses and recommendation into account, the final scale consisted of 11 items, (e.g. "It makes me feel good when I buy gifts for myself") including two reverse score items, (e.g. I would feel badly if I indulged and bought myself a gift) which were subsequently dropped from further analysis because they didn't load well onto any factors. A Factor Analysis on the 9 remaining items, yielded one factor which accounted for 50.2% of the total variance, with all the items loading strongly. Additionally, the alpha coefficient was .8736, above the recommended .7 indicating that the scale is reliable.

In addition to the 11 attitude items, included in this scale were 5 additional items that measured the subjective norm to self-gift giving (e.g. My friends often buy gifts for themselves; My family encourages me to reward myself and buy myself special items). As with the attitude items, there was one reverse scored subjective norm, which was subsequently dropped. The remaining 4 items loaded onto 1 factor and explained approximately 60% of the variance and had an acceptable alpha coefficient of .7722.

Reward and Therapy Scenarios

The above scale items were for measuring consumers' overall attitude towards self-gifting. As mentioned in the second set of hypotheses, we were also interested if consumers would differ in their likelihood to self-gift depending on the context. Therefore, we included in the questionnaire 5 reward and 5 therapeutic scenarios, and had subjects indicate their likelihood to self-gift for each scenario. An example of a reward scenario is:

"Suppose you have studied very hard for a final exam that is worth 50% of your grade. You even stayed home on weekends and missed a friend's party so that you could read the book twice and go over your lecture notes. The exam is extremely difficult, but because you studied hard and were well prepared, you got one of the highest grades in the class"

How likely is it that you would then go out and buy yourself something special to reward yourself for your hard work?

Not at all likely 1 2 3 4 5 6 7 Very likely

The rest of the scenarios can be found in the appendix. As with the attitude scale, several PhD students as well as 3 undergraduate students reviewed the scenarios and made helpful suggestions. A Factor Analysis on the 10 items yielded 2 factors which explained approximately 57% of the total variance. The reward items loaded onto 1 factor and the therapeutic items loaded onto the second. The alpha coefficients for the reward and therapy items were .76 and .82 respectively.

To test the convergent validity of this scale, two additional behavioral items were included in a different section, "I often buy myself gifts to cheer myself up" and "I often reward myself and buy myself presents." These scores were then correlated with their respective scenarios (therapy or reward). Churchill has defined convergent validity for a given measure as "the extent to which it correlates highly with other methods designed to measure the same construct (Churchill 1979, p. 70)." The Pearson correlation for the reward scenarios and reward behavioral item was .45 and significant at the .01 level. The Pearson correlation for the therapy scenarios and therapy behavioral item was .222 and marginally significant at the 0.1 level.

Ad slogans

The final part of the questionnaire consisted of 5 self-gift advertisement slogans followed by various attitude measures of them (e.g. likeable, favorable, positive, good). 2

were slogans taken from real companies and the other 3 were artificial. A factor analysis yielded 2 factors, which explained approximately 63% of the variance. “You deserve it” and “Because I’m worth it” loaded onto one factor and “The perfect little thank me,” “I like me” and “One for him, one for me” loaded onto another. The slogans in the second factor all contain the word “me” and the first factor has a deserving theme. However the alpha coefficients were .63 and .59 respectively. This may be due to the small number of items on each scale, as Churchill and Peter (1984) have indicated that sample size, the number of scale items, and the number of scale points can potentially influence the reliability of a given scale. Nevertheless, due to the low reliability of the scales, the ad slogans will each be analyzed individually.

RESULTS

This section will discuss the results of the hypotheses tests. Table 1 on the following pages contains a summary of the results.

To test the first set of hypotheses regarding self-construal and overall attitude towards self-gifting, the Univariate General Linear Model (GLM) procedure on SPSS was used to conduct an analysis of variance with self-construal as the factor variable (high independents versus high interdependents) and attitude as the dependent variable. The attitude score for each subject was calculated by summing up the scores for each attitude item (9 in total) and then taking the mean. As predicted, subjects with high independent self-construals had a more favorable attitude towards self-gifting, with a mean of 5.37 and subjects with high interdependent self-construals had a less favorable attitude towards self-gifting with a mean of 4.87. As can be seen in Table 1, these results were significant at the .01 level, therefore Hypotheses H1a and H1b were supported.

The next set of hypotheses was specifically testing subjects’ attitude towards self-gifting advertisement slogans. 5 slogans were used, and were analyzed individually as well as collectively. Overall, Independents had a more favorable attitude towards self-gifting slogans and Interdependents had a less favorable attitude towards them ($p=.000$). Specifically, the 2 slogans taken from the real world, (slogan 2 and 3 on the table) “The perfect little thank me” (Andies candy) and “Because I’m worth it” (Loreal) both had significant p-values of .039 and .018 respectively. The mean attitude towards these slogans for Independents was 4.88 and 6.42 respectively and was for 4.70 and 5.98 for Interdependents, again providing support for H2a and H2b.

One interesting result was with regards to slogan 5, “One for him, one for me.” The attitude difference between the groups was marginally significant at the 0.1 level, however the means were in the opposite direction than predicted. Interdependents viewed this slogan more favorably than Independents. At first glance this is surprising, but after carefully thinking about the message in the slogan, it seems that Interdependents may have interpreted this ad, as a focus on others first, “one for him” and this is consistent with Interdependents whose happiness typically depends on the happiness of those around them. This implies that marketers can use self-gift appeals when targeting interdependents, but should frame them in a way that makes them feel that they are not only making themselves happy, but others as well at the same time.

Table 2- Self Construal: Independents versus. Interdependents				
	F	p-value	Independents	Interdependents
Ad slogans***	11.134	.000	5.43	4.30
ATTITUDE***	5.902	.006	5.37	4.87
BEHAVIORAL INTENT**	4.779	.014	24.15	22.39
REWARD	1.815	.176	5.42	5.04
Slogan 1*	2.763	.075	5.82	5.90
Slogan 2**	3.515	.039	4.88	4.70
Slogan 3**	4.438	.018	6.42	5.98
Slogan 4	2.184	.126	5.25	4.64
Slogan 5*	2.612	.086	4.33	5.25
Subjective Norm**	3.507	.039	4.53	4.44
Therapy	.290	.750	2.74	2.86
			n= 60	n=61
*** results are significant at .01 level				
** results are significant at .05 level				
* results are significant at .1 level				

The third hypothesis was concerned with the subjective norm of self-gift giving and how it related to self-construal. As can be seen from the Table2, there was a significant difference between the groups: Independents felt that those around them had more positive views of self-gift giving than Interdependents. The hypothesis predicted that the subjective norm scores would be positively correlated with independents (0.150) and negatively correlated with interdependents (-0.022). It should be noted that although the direction predicted was correct the results were not significant.

The above were tests of peoples attitude towards self-gifting and their normative beliefs about it. As conceptualized in the TERA model, these two constructs together predict the behavioral intention of a consumer, which is indicative of a consumers actual behavior. To get the behavioral intention score, the average attitude score was multiplied with the average subjective norm. As can be see in Table 1, the scores for the behavioral intention are significantly higher for subjects with independent self-construals (24.15) than with interdependent self-construals (22.39). This implies that people with high independent self-construals are more likely to self-gift, and people with high interdependent self-construals are less likely to self-gift, therefore supporting H4a and H4b.

The final set of hypotheses incorporated the context of the self-gift and suggested that people with independent self-construals will be more likely to self-gift in reward contexts and less likely to self-gift in therapy contexts and that people with interdependent self-construals will be more likely to self-gift in therapy contexts and less likely in reward contexts. As can be seen on Table 1, the results were not significant for either the reward scenario or the therapeutic scenario, therefore H5a and H5b were not supported. However, the means are in the right direction. Independents have slightly higher means for reward likelihoods (5.42 vs. 5.04) and Interdependents have slightly higher means for therapeutic likelihoods (2.86 versus 2.74). Interestingly however, both groups indicated low likelihoods in buying a self-gift under the therapy scenarios, and high likelihoods in buying a self-gift under a reward scenario, suggesting that for both groups, marketers should concentrate their appeals on reward scenarios.

Other Results

Though ethnicity and gender were not the direct focus of this research, some interesting results pertaining to them are worth mentioning. As can be seen on Table 3, there

were significant differences between Americans and Asians with regards to self-gifting attitude and behavior. These results were similar to those of Independents and Interdependents, in that Americans were more likely to self-gift than Asians, they were more likely to self-gift themselves in reward contexts, and the subjective norm was much more favorable to self-gifting for Americans than Asians.

Table 3- Ethnicity: Americans versus Asians Means

	F	p-value	Americans	Asians
Ad slogans**	3.795	.031	5.21	4.87
Attitude	2.167	.127	5.05	4.23
Behavioral Intention***	5.497	.008	24.98	16.41
REWARD*		3.164	.053	5.37
4.92				
Slogan 2**	4.800	.014	5.0	4.15
Subjective Norm***	6.622	.003	4.87	3.57
Therapy	.259	.773	2.84	2.87

*** results are significant at .01 level
 ** results are significant at .05 level
 * results are significant at .1 level

Similarly, Table 4 contains differences between males and females. Females had a more favorable attitude towards self-gifting and were more likely to self-gift. They also responded more favorably to self-gift advertisement slogans. This is particularly interesting since as mentioned previously, men are supposed to be more independent and women more interdependent, yet women scored more like independents and vice versa.

Table 4- Gender: Male versus Female Means

	F	p-value	Male	Female
Ad slogans***	12.742	.001	4.26	5.16
Attitude***	10.025	.003	3.83	4.95
BEHAVIORAL INTENT**	3.960	.053	15.58	21.20
Slogan 3***	16.583	.000	4.67	6.19
Slogan 4*	3.693	.061	3.81	4.81

n=74 n=87

*** results are significant at .01 level
 ** results are significant at .05 level
 * results are significant at .1 level

Implications and Limitations

The empirical findings of this research explicates the role of self-construal in consumers' attitudes towards and likelihood to self-gift. Across a set of hypotheses the results indicate that Independents have a more favorable attitude towards self-gifting and are more likely to self-gift than Interdependents. Thus, the managers who are marketing their products and brands across the globe cannot standardize the message appeals, which are based on self-

gifting. They have to take into account self-construal of the general population in the target country.

However, the results of this analysis provide some direction to marketers as to what appeals they should use. As mentioned above, both Independents and Interdependents indicated that they are more likely to self-gift in reward scenarios, and less likely in therapy ones. Therefore, marketers should avoid using therapeutic scenarios when trying to encourage self-gifting. In addition, though independents have a significantly more favorable attitude towards self-gifting and are more likely to self-gift than interdependents, the means for the interdependents of attitude was 4.87 (out of 7) implying that they do not think terribly of self-gifts. This, taken together with their positive evaluation of the slogan “one for him, one for me” implies that the right appeal, can encourage interdependents to self-gift as well. More specifically, rather than the slogans used in the United States that emphasizes the worth of the individual, (i.e. You deserve it), to better target Interdependents, the slogans should emphasize family and friends and their happiness.

As with all studies, this paper has some limitations, which provide opportunities for future research. We used students as subjects and this limits the external validity of our findings. We also used a paper and pencil approach, and it would be interesting to study this in the field as opposed to a lab. Our research was also conducted in the United States, and there may have been an American influence on individuals culture. We recommend conducting this study in an Asian country where the majority of individuals would have a dominant interdependent self-construal. Other cultural dimensions should be measured and analyzed. For example, based on the significant results reported between the genders, perhaps the next dimension to explore is the masculinity/femininity dimension. Finally, we suggest that further studies use an experimental design and manipulate self-construal by priming either the independent or interdependent self-construal to see if the results in this study would be replicated.

APPENDIX 1

We appreciate you taking the time out to complete this survey, and thank you for participating in this study. Please read each of the following scenarios carefully and then answer the questions by placing a circle around the answer that best describes how you feel.

PLEASE RESPOND TO EVERY QUESTION

1. Suppose you have studied very hard for a final exam that is worth 50% of your grade. You even stayed home on weekends and missed a friends party so that you could read the book twice and go over your lecture notes. The exam is extremely difficult, but because you studied hard and were well prepared, you got one of the highest grades in the class.

How likely is it that you would then go out and buy yourself something special to reward yourself for your hard work?

Not at all likely 1 2 3 4 5 6 7 Very likely

2. The holidays are approaching and you are excited to be spending them with your family, whom you haven't seen in months. You booked your plane ticket months ago and have been counting down the days till you can see them. On the day that you are supposed to travel, there's a big snowstorm and all the flights are cancelled. Your friends all made plans already, so you end up spending the holidays alone.

How likely is it that you would then go out and buy yourself something special to cheer yourself up?

Not at all likely 1 2 3 4 5 6 7 Very likely

3. It is the end of the semester, and you and your other 4 group members are presenting to the class the research that you have been working on all semester. You totally mess up your part and thanks to you, your entire group receives a poor grade.

How likely is it that you would then go out and buy yourself something special to cheer yourself up?

Not at all likely 1 2 3 4 5 6 7 Very likely

4. Imagine that you are a senior in college and decide to apply to graduate school. You take the necessary exam (e.g. l-sat, g-mat, m-cat etc.), write an admissions essay, get letters of recommendation, fill out the forms and mail them in. One day when you get home you see an envelope in the mailbox from the school that you really want to go to. You quickly open it and are happy to see that you were accepted! Congratulations.

How likely is it that you would then go out and buy yourself something special to reward yourself for this accomplishment?

Not at all likely 1 2 3 4 5 6 7 Very likely

5. At work you receive a letter notifying you that you are one of the final candidates in line to receive a promotion and the final decision will be made by the end of the week. You know that you deserve it- you've been working really hard, staying late etc., but then again so have the other employees. At long last the week comes to an end and you are called into your boss's office. He has good news. You have been promoted!

How likely is it that you would then go out and buy yourself something special to reward yourself for receiving this promotion?

Not at all likely 1 2 3 4 5 6 7 Very likely

6. You have been dating someone for a few months and things seem to be going well. You're even beginning to fall in love. One night at dinner though, he/she tells you that they don't think it's going to work out. When you ask why, he/she tells you that they just don't feel the same way anymore. It's over.

How likely is it that you would then go out and buy yourself something special to cheer yourself up?

Not at all likely 1 2 3 4 5 6 7 Very likely

7. You are the captain of your school's basketball team and for the first time in years, your team has made it to the final championship. Your team is up by 2 with 10 seconds to go and the other team now has possession of the ball. You can hear your friends and family cheering you on in the crowd screaming DEFENSE!. Time is dwindling down, and with 1 second left their point guard shoots a 3 pointer. You hold your breath as you watch the ball in the air. It misses! Your team wins!

How likely is it that you would then go out and buy yourself something special to reward yourself for this win?

Not at all likely 1 2 3 4 5 6 7 Very likely

How likely is it that you would then go out and buy yourself something special to cheer yourself up?

9. You are the captain of your school's basketball team and for the first time in years your team has made it to the final championship. Your team is up by 2 with 10 seconds to go and the other team now has possession of the ball. You can hear your friends and family cheering you on in the crowd screaming DEFENSE!. Time is dwindling down, and with 1 second left their point guard shoots a 3 pointer. You hold your breath as you watch the ball in the air. Swish, it goes in. Your team loses.

Not at all likely **1** **2** **3** **4** **5** **6** **7** **Very likely**

How likely is it that you would then go out and buy yourself something special to reward yourself?

Other

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- ☐ Even when I strongly disagree with group members, I avoid an argument.
☐ I often buy myself gifts to cheer myself up.
☐ I have respect for the authority figures with whom I interact.
☐ I do my own thing, regardless of what others think.
☐ I respect people who are modest about themselves.
☐ I feel it is important for me to act as an independent person.
☐ I will sacrifice my self-interest for the benefit of the group I am in.
☐ I'd rather say "No" directly, than risk being misunderstood.
☐ Having a lively imagination is important to me.
☐ I should take into consideration my parent's advice when making education/career plans.
☐ I feel my fate is intertwined with the fate of those around me.
☐ I prefer to be direct and forthright when dealing with people I've just met.
☐ I feel good when I cooperate with others.
☐ I am comfortable with being singled out for praise or rewards.
☐ If my brother or sister fails, I feel responsible.
☐ I often have the feeling that my relationships with others are more important than my own accomplishments.
☐ Speaking up during a class (or a meeting) is not a problem for me.
☐ I would offer my seat in a bus to my professor (or my boss).
☐ I act the same way no matter who I am with.
☐ My happiness depends on the happiness of those around me.
☐ I value being in good health above everything.
☐ I will stay in a group if they need me, even when I am not happy with the group.
☐ I try to do what is best for me, regardless of how that might affect others.
☐ Being able to take care of myself is a primary concern for me.
☐ It is important to me to respect decisions made by the group.
☐ My personal identity, independent of others, is very important to me.
☐ I often reward myself and buy myself presents.
☐ It is important for me to maintain harmony within my group.
☐ I act the same way at home that I do at school.
☐ I usually go along with what others want to do, even when I would rather do something different.
☐ I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.

Below are slogans being considered by marketers for use in their advertisements of their products. Please read them each carefully and rate them on the following dimensions:

"You deserve it"

Not at all likeable	1	2	3	4	5	6	7	Likeable
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Bad	1	2	3	4	5	6	7	Good

"The perfect little thank me"

Not at all likeable	1	2	3	4	5	6	7	Likeable
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Bad	1	2	3	4	5	6	7	Good

"Because I'm worth it"

Not at all likeable	1	2	3	4	5	6	7	Likeable
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Bad	1	2	3	4	5	6	7	Good

Not at all likeable	1	2	3	4	5	6	7	Likeable
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Bad	1	2	3	4	5	6	7	Good

Not at all likeable	1	2	3	4	5	6	7	Likeable
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Bad	1	2	3	4	5	6	7	Good

Not at all likeable	1	2	3	4	5	6	7	Likeable
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Bad	1	2	3	4	5	6	7	Good

1-----2-----3-----4-----5-----6-----7

Very strongly disagree Neither disagree nor agree Very strongly

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_____ When I accomplish something I'm proud of, I like to reward myself and buy myself a present.

_____ My friends would think it is weird if I bought myself something special.

_____ I like to buy myself gifts sometimes to cheer myself up.

_____ My friends often buy gifts for themselves.

Thank you!

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THE RELATIONSHIP OF ONLINE NETFLIX USER REVIEWS TO DAYS TO SALE FOR NEW DVDS ON AMAZON

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ABSTRACT

This study examines the association between user ratings and the number of days it takes to sell a product. We used two different types of user rating measures: valence (mean user rating) and volume (total number of ratings). The goal is to determine whether consumer ratings of a movie, tv series, or documentary impact dvd sales and, in particular, whether these two measures have the potential for predicting the time it takes for a new dvd to sell. The study also hopes to shed more light on the contradictory results found for the role of valence and volume of user ratings in predicting sales. The findings suggest valence is a useful predictor of the time to sell, while volume is not. General implications of the pathway of influence of user ratings on dvd sales are discussed.

INTRODUCTION

The substantial growth of the Internet has caused profound changes in the global economy. Research on its impact on national economies shows that Internet sales are beginning to make up a notable percent of GDP, especially in countries where consumers and corporations are heavy users (Hazan et. al, 2011). It has also had a tremendous impact on consumer purchase of collectible cultural goods such as books.

Books once were sold in a local competitive landscape. Due to the ubiquity of the Internet, however, they now must compete globally (Raugust, 1999). Rare books, for example, are no longer solely sold in small Antiquarian book stores. Buyers can now purchase rare books from such global sites as Biblio (<http://www.biblio.com>), AbeBooks (<https://www.abebooks.com>), and Alibris (<http://www.alibris.com/>). The Internet has also impacted the sale of new books. While used college texts have, for example, always negatively impacted the sale of new texts, Internet sale and purchase of used books from students have increased this negative impact well beyond prior levels. No longer do new books of any kind have a long period of time before their sale is eroded by used books. As remarkable as it may seem, books are available as used books almost immediately after their release, with used editions appearing on Amazon often only one day after the new book goes on sale (Mutter et al., 2004).

Similar to books, a DVD is also capable of being a collectible and is not perishable. And the sale of DVDs has followed a similar course to that of books sold on the Internet. The majority of DVD sales moved from local distribution by retailers to global regional sales linked to the ability of a DVD to play in given regions of the world, designated by their region codes (e.g., 1 = U.S. and Canada, 6 = China).

As a digital product, the DVD film market has a short product life cycle; with considerable novelty value at the beginning, followed by a brief maturity phase and a rapid decline as new films supersede old ones. Studios have attempted to retain consumer interest through the release of Blu-rays and the release of popular films as special editions with some success, though the cost of restoration can be as high as \$1 million dollars (Schauer, 2012). Also, there are still things that can be obtained on a DVD that can't be found in streaming and may never be found on streaming because of the extra cost to streaming distributors, such as special features (e.g., interviews with directors and actors) (Weinman, 2012). Whether someone chooses to rent or own a DVD to get these features is a complex matter driven by price, convenience, and user preference.

This short life cycle and the intense competition that takes place during it require a responsive and agile DVD inventory management process (Chung et al., 2012). One key component for the development of such a system is an understanding of how user views of DVD content relate to sales, especially online where many DVDs are now purchased. Our study seeks to answer this question by examining the impact of valence and volume of user reviews on the time it takes to sell new DVDs.

Whether valence or volume matters more has remained a point of debate in current research. Reviews have long been recognized as highly influential in consumer choices in the cultural industries, ranging from performing arts festivals (Shrum, 1991) to the feature film industry (Chintagunta et al., 2010; Dellarocas et al., 2007; Duan et al., 2008; Liu, 2006), digital music industry (Shin et al., 2008) and the online book market (Chevalier & Mayzlin, 2006; Gruhl et al., 2005). However, the pathway of influence through which reviews affect market outcomes has been relatively underspecified. Since product reviews vary in terms of volume and valence, there are two possible pathways of influence of reviews on consumer choice.

One perspective is that the sheer volume of reviews may serve as a proxy for popularity of products (Kovacs & Sharkey, 2014) which may encourage purchase behavior. An alternative perspective is that the valence of reviews may serve as a proxy for quality of products which may also give rise to consumption behavior. So far, the results are mixed. For example, Chevalier and Mayzlin (2006) find that both volume and valence are significantly related to sales of books online. However, other studies show that volume matters, but not valence, when it comes to predicting U.S. movie box office revenues (Duan et al., 2008; Liu, 2006). Conversely, Shin et al. (2008) show that valence, not volume, is a significant driver of price change in the digital music market.

Recognizing the inconsistency found in the existing literature, we seek to shed new light on these differing research findings using data from a relatively under-investigated product market: the online DVD market. Specifically, we constructed an original dataset of 202 new DVD sales on Amazon to investigate the relationship between user review volume and valence and time to sale. Below, we pose and answer two inter-related questions: 1) do user reviews impact the time to sale for online DVD sales? and 2) if so, does volume or valence of reviews (or both) have potential for predicting the time to sale? Before describing the methods and findings of our analysis, we review previous research on user reviews and sales of cultural products.

REVIEW OF THE LITERATURE

The Internet influences price by providing information on competitive pricing (Baye et al., 2007) and a vehicle for transactions (Ratchford, 2009). The Internet also provides considerable information that can influence consumer and producer decisions for DVDs.) For

example, movie maturity ratings, such as an R rating, are one form of easily accessible information that has potential to affect consumer buying decision. Maturity ratings have been shown to reduce box office revenues by 20% (Palsson et al., 2013). Research on the impact of maturity ratings on DVD sales has not yet been conducted, though it is likely they impact total revenue in a similar way.

The Internet also provides easy access to a number of movie quality rating sources, such as those provided on Amazon, Netflix, Yahoo Movies, and the IMDb website. It also provides written reviews from users and critics which vary in review quality on these sites (Yu et al., 2012). Prior studies on the predictive power of reviews have shown that volume of user reviews predicts the trend of product sales for books (Gruhl et al., 2005) and box office revenue (Duan et al., 2008, Liu, 2006). Researchers have also found average user ratings, sometimes referred to as valence, have a positive impact on box office revenues as do positive critic ratings (Moon et al., 2010).

Music CDs, DVDs, and books share many characteristics in common with food in that they are subject to discounting similar to commodities that can be directly consumed and are perishable (Charlton & Fantino, 2008). DVDs also show considerable price dispersion, defined as highest price minus the lowest price. While the average market price for a DVD goes down quickly over time due to intense price competition, price dispersion remains, suggesting that dispersion is a persistent, rather than a transitory phenomenon (Xing, 2008; Xing, 2010).

The explosive growth of Internet retailing provides an excellent opportunity for determining factors which relate to consumer purchase of DVDs and the opportunity to see how such factors affect sales for a homogenous product. DVDs do not differ significantly except for the Blu-ray distinction. One notable exception is a Criterion DVD, where brand comes into the picture. Criterion DVDs command a higher price and are generally considered to be of the highest quality, especially for film restoration of more artistic films and high profile films of the past such as *Silence of the Lambs* (http://www.criterion.com/about_us).

Forecasting sales can be critical for the survival of companies that must deal with the very short life cycle of DVDs. However, it is not uncommon to find DVD products that do not follow typical sales patterns. This has fostered pessimism over the ability to develop reliable forecasting. With such disparate sales patterns, accurate sales forecasting is difficult (Chung et al, 2012). To tackle this challenge, we focus on online user ratings. Three measures of online reviews have been considered in prior research. They include volume of reviews (Liu, 2006), the mean rating or valence of reviews (Chevalier & Mayzlin, 2006; Duan et al., 2008; Liu, 2006) and variance in reviews (Godes & Mayzlin, 2004).

Then, which of these three measures is the most powerful predictor of sales? Results are mixed. For example, Chevalier and Mayzlin (2006) emphasized the importance of valence in the case of books. Dellarocas et al. (2007) found that volume, valence, and dispersion of user ratings had a positive, significant impact on future national box office performance for movies. Gruhl et al. (2005) showed that spikes in online chatter corresponded to spikes in book sales but did not assess whether the chatter was negative or positive. Chung et al. (2012) studied 170 DVD rental titles and 98 DVD retail titles from Blockbuster retail operations but all were new releases and price was not considered. Also, their model did not include user ratings though it did suggest strong influences from networking of users (e.g., discussing the movie among friends). Both studies suggest that volume should relate to sales. However, volume was not found to influence sales in this study.

Study of the relationship of review valence and volume with box office performance has yielded inconsistent results. Duan et al. (2008) studied 71 movies released between July 2003 and May 2004. They found no significant relationship between box office revenue and either the cumulative average ratings or the average daily ratings obtained from Yahoo!Movies and BoxOfficeMojo.com; box office sales were not directly influenced by time-series changes in the average ratings of consumers. However, they found that the daily volume of ratings had a significant relationship to revenue, with greater volume predicting more sales. They also found that valence related to volume, with more positive ratings related to greater volume suggesting that more positive buzz leads to more ratings.

In contrast, Chintagunta et al., (2010) studied box office revenue for 148 movies released from November 2003 to February 2005 with user ratings collected from Yahoo!Movies website. They found the main driver of box office performance was valence and not volume of ratings or precision of ratings prior to a movie's release (a variation on rating variance). When they aggregated box office sales data across local geographic market releases, they found that volume and precision, not valence of ratings, related to box office sales. They argued that aggregating sales data across markets masked the true marginal impact of valence on regional box offices sales.

Likewise, Moon et al. (2010) did not find a consistent relationship between average ratings, critic and amateur, and movie revenues across the first two months of a movie's opening. They studied the relationship for 246 movies released from May 2003 to October 2005 in theaters and videos across six major genre categories: thriller, romance, action, drama, comedy and animation. Critic and amateur ratings did not relate to revenue except during the opening week for critics and the week following the opening week for amateur ratings. However, they did find that those who view movies after the opening week choose the movies because of previous amateur user ratings. When the interaction between ratings and advertising was considered, they found a significant effect for all seven weeks following the opening week, suggesting that advertising is needed to enhance any buzz created by positive ratings.

Others have assessed the relationship between the content of reviews and future sales performance for movies. Yu et al. (2012) found that both sentiments expressed in the reviews and the quality of the reviews had a significant impact on future sales. For books, spikes in blog activity were found by Gruhl et al. (2005) to relate to future spikes in sales rank though they also found that predicting whether tomorrow's sales rank for a particular book would be higher or lower than that of the preceding day was difficult. Their research suggests that users pay attention but they did not determine whether the blogs spikes were the result of negative or positive spikes in user views. Chevalier and Mayzlin (2006) found that negative reviews of books had a greater impact on sales than positive reviews while Shin et al. (2008) found that negative buzz led to price cuts for high ticket items on websites while positive buzz allowed price increases.

Online vendors may have considerable data on factors affecting the sale of DVDs but they do not ordinarily make this information public. While there can be issues with quirky raters and the possibility they may not adequately reflect the true popularity or reputation of a movie, especially when the number of raters are few (Zhou & Lange, 2009), user ratings of movies are public and available. Though the environment and the interplay of potential predictors is complex and, at times, frustrating to understand, it appears that user reviews may provide useful information for predicting DVD sales. The differences in the results found for the relationship of

user rating valence and volume with movie revenue reflects the complex environment in which user ratings operate as “word-of-mouth” advertising on what to attend or watch.

HYPOTHESES

Despite inconsistency in results for valence and volume of ratings in predicting sales revenue, with valence showing significant relationships in some studies and volume showing significant relationships in others, there appears to be little dispute that online ratings serve as word-of-mouth advertising for what to watch and buy. User ratings of movies and books have been shown to have a role in predicting their sales.

Sales forecasting models also anticipate the important role of user ratings. The Bass model for sales forecasting (Bass, 1969) assumes a single large potential adopter population with an instantaneous adoption rate influenced by two forces. The first force stems from intrinsic interest in a given product, independent of the number of previous adopters. The second force is due to a positive influence from previous adopters.

Goldenberg et al. (2004) suggest that the rate of product sales for new, innovative products (such as movies) relates to “localized sales density” where the “word-of-mouth” effect will become very strong as the density of product purchasers increases. When density is low, they suggest that there is less building momentum and product sales will diminish rapidly. Chung et al. (2012) posit three components for predicting DVD and game sales: (1) committed buyers whose purchase will be independent of the population, (2) potential buyers who are influenced by existing buyers and their own intrinsic interest, and (3) potential buyers influenced by networking within a closely tied group of consumers, which is impacted by committed and potential buyers who cause this group to buy. One difference from the Bass model is the notion that those who influence DVD purchase in networking may not yet be previous adopters.

Two hypotheses were tested. For both hypotheses, the dependent variable was days to sale. In Hypothesis 1, we predicted that the influence of mean user ratings (valence) on days to sale for DVDs would be negative. It was our expectation that it would take longer to sell a DVD when user ratings were less positive. The mean rating of DVDs is readily available to users prior to their purchase and offers one measure of a DVD’s quality. Thus, it can serve as an important source of word-of-mouth views and fits into the Bass model as a potential positive influence from previous adopters.

In Hypothesis 2, we predicted that the influence of user rating volume on days to sale for DVDs would also be negative. It was our belief that it would take longer to sell a DVD when the volume of user ratings was lower. In the case of existing DVDs, it might be a proxy for market size and consumer awareness of a given title, including the inability or ability to remember a title to use in a search engine. Some research suggests that volume is influenced by movie attendance with box office revenue having an effect on volume (Duan et al., 2008) suggesting that volume builds as a result of prior sales success. Research by Gruhl et al. (2005) found that spikes in volume of blogs about a book related to spikes in purchases. Thus, there is potential for rating volume to serve as a predictor of DVD sales even though volume appears to operate in a somewhat more complex way than valence and likely lags valence. The following formal hypotheses were tested.

H1 The influence of mean user ratings (valence) on days to sale is negative.

H2 The influence of user rating volume on days to sale is negative.

RESEARCH METHODOLOGY

Two sources of data comprised the study. First, it was necessary to sell DVDs online in order to determine the number of days sold for a mix of DVDs. Second, it was necessary to obtain user ratings of the DVDs sold.

DVD Sales

A seller account was established on Amazon.com in October, 2012, with a seller name of MyDVD/CD 4 U. A total of 202 new DVDs were put up for sale between 10/15/2012 and 10/1/2014. The DVDs selected for sale came from a personal DVD collection of close to 2000 titles. This collection was acquired over a 15-year period of time and included an array of new DVDs. To attenuate the possibility of seasonal variation, the DVDs were listed in eight batches during this time period covering the fall, winter, spring, and summer selling seasons (two in each season).

The DVDs were comprised of a very broad array of titles reflecting eight categories: biography/documentary, comedy, drama, foreign film, horror/sci-fi, musical, mystery/thriller, and TV episode. The foreign DVDs included a mix of comedy, drama, horror/sci-fi, and mystery/thriller. TV included a mix of comedy and mystery/thriller. The drama titles included works derived from classic and modern literature including Ibsen, Joyce and Shakespeare as well as titles with broader box office appeal.

The Amazon best sellers rank for each DVD was checked at the time of its initial listing (<http://www.amazon.com/gp/help/customer/display.html?nodeId=525376>). Amazon publishes sales rank information as a service to its customers. The Amazon best seller rank calculation is based on Amazon.com sales and is updated hourly to reflect recent and historical sales of every item sold on Amazon.com (DVDs in this context). While this is a very dynamic measure, it provides an indication of sales potential for a title. The number increases when the sale of the DVD decreases, thus an inverse relationship. Each DVD on Amazon counts as a different DVD even if it is the same title in another format or package. About 450,000 new DVDs and another 72,000 Blu-ray DVDs, generally of the same title as a regular DVD, were offered during the time of the study.

The pricing strategy was essentially a low price strategy, though some DVDs were assigned a somewhat higher price to provide a range of pricing. The lowest price for each DVD was decided prior to offering it for sale by determining the lowest price offering for the DVD that existed prior to its listing.

However, pricing of DVDs was a highly dynamic process at Amazon. New vendors appeared, Amazon chose to discount unexpectedly, and some vendors pursued a computer-driven low pricing strategy which placed their product at a pre-determined low price point designed to make them the lowest price offering of the DVD. This low price point often was one cent lower than the next to lowest price though, at times, it was 30 cents and 61 cents, among other possibilities. Sometimes new start-up vendors, with no prior record of user ratings, would enter and discount their price by as much as 20% from the lowest price at the time of their initial offering. This combination of factors often led to a downward spiral of prices for a period of time.

As a result, it was necessary to lower the price for some titles following the first sales date to maintain the pricing strategy set forth for each DVD. This was not done to maintain the somewhat artificial pricing strategy used by other vendors of a few cents, but rather to maintain

the overall low price strategy. The average price decrease for those DVDs that didn't sell with their initial price was about ten percent.

User Ratings

The mean user rating (valence) and number of user ratings (volume) ratings were obtained from Netflix.com (<http://movies.netflix.com/WiHome>). For box sets, it was necessary to find the average rating and average volume for the multiple movies or TV episodes on the DVD. Multiple TV episodes sometimes required estimation of valence and volume because episodes were not clearly separated in the Netflix ratings. This was the case for nine TV box sets.

IMDb mean ratings were used instead of Netflix ratings for these box sets. The average IMDb valence for the episodes on the box set was determined. Then, the average IMDb valence for the box set was converted to a 1-5 scale by multiplying it by .5, allowing it to have comparability to the Netflix ratings.

Volume of user ratings was provided by IMDb for each episode within the nine TV DVD box sets, but we chose not to try and convert this volume to a comparable Netflix volume. Instead, the volume of ratings at Netflix for the aggregated ratings of the box sets was used as a measure of volume. For example, volume of ratings was available for all Simpson and Law and Order episodes carried by Netflix at 1,804,866 and 626,926, respectively. It was our belief that attempting to convert IMDb volume to Netflix volume would not result in a better estimate of rating volume for selected episodes than that provided at Netflix for all episodes.

Volumes of more than 1,000,000 were sometimes found. These were often movie blockbusters like The Terminator, Shutter Island, and Pearl Harbor or movies with a history of many successful years like Casablanca and Citizen Kane. For TV, high volume was associated with such series as South Park and the Simpsons. Low volumes were associated with less well known productions such as The Merry Wives of Windsor, Mr. Arkadin by Orson Welles, and Hamlet at Elsinore, which had the lowest volume of 375.

RESULTS

Table 1 provides summary data for the 202 DVD sample. Of the eight categories of DVDs represented, drama dominated the mix followed by foreign films, mystery/thriller, and horror/sci-fi. A one-way-ANOVA showed no significant difference by type for days to sale ($F = .787$, $df = 7, 194$, ns) or initial price ($F = 1.278$, $df = 7, 194$, ns).

Of the 202 DVDs, 64 or 32% were in the high resolution Blu-ray format and 29 or 14% were a Criterion brand. Box sets of multiple titles or TV episodes comprised 34 of the DVDs or 17%. Typical of TV DVDs, all 14 of the TV titles were box sets.

The Amazon best seller ranking for the DVDs showed a broad range, from 1437 to 494,744, with a mean of 67,480 and standard deviation of 68,625. This measure is designed to be a measure or barometer of a DVD's sales by Amazon and was correlated with days to sale ($r = .463$, $p \leq .001$) with a higher value associated with more time to sell.

The average valence for Netflix ratings was 3.59 with a standard deviation of .40 and range of 2.3 to 4.5. Volume averaged 833,391 with a standard deviation of 1,750,182 and range of 375 to 8,701,092. The median was 111,148, substantially lower than the mean, reflecting the impact of some very high volumes on the mean.

The average initial price for the DVDs was \$24.44 with a standard deviation of \$17.92. A price reduction was required for 22.8% of the DVDs for up to four times, depending on the

DVD and competition. On average, the first price reduction took place 6.4 days after the first 24 hours (day 0) while the second and third price reductions took place on the average at 12.4 and 21 days following day 0, respectively. The fourth price reduction took place on day 32 for two DVDs.

All DVDs sold within 36 days of their initial listing with 29.7% selling on the first day of their offering (day 0), in 24 hours or less, and another 20.8% selling on the next day (day 1). On average, DVDs took 3.93 days beyond the first day (day 0) to sell with a standard deviation of 5.96. While variability in days to sale differed across the eight sales periods (Levene statistic = 5.381, $df = 7, 194$, $p \leq .001$), there was no significant difference in average number of days it took to sell a DVD across the periods ($F = 1.204$, $df = 7, 194$, ns).

H1 and H2 were tested through an OLS regression. The dependent variable was days to sale where 0 is the first offering day (or within 24 hour or less), 1 is the first day (next 24 hours) after the initial offering day and 36 represents 36 days after the first offering day. The independent variables were valence and volume. Two additional analyses were conducted with only the control variables changing. In the first analysis, initial price was entered to serve as a control variable. In the second analysis, whether the DVD was Blu-ray or Criterion were added as control variables to initial price.

Table 1				
SUMMARY OF THE 202 DVD DATA SAMPLE				
Variable	Summary Statistics			
DVD Types	Drama (87, 43%), Foreign (27, 13%), Mystery/Thriller (18, 9%) Horror/Sci-fi (17, 8%), Comedy (17, 8%), Musical (16, 8%), TV (14, 7%), Bio/Documentary (6, 3%)			
Blu-Ray	No (138, 68%), Yes (64, 32%)			
Criterion	No (173, 86%), Yes (29, 14%)			
Box Set	No (168, 83%), Yes (34, 17%)			
Price Reduction Implemented	No (156, 77%), One (26, 13%), Two (13, 6%), Three (5, 3%), Four (2, 1%)			
	Mean	SD	Minimum	Maximum
Amazon Best Seller Rank	67,480	68,625	1437 Ben Hur	494,744 The Stranger
Valence (Mean Rating)	3.59	.40	2.3 Sebastiane	4.5 Pearl Harbor Pride & Prejudice (Colin Firth)
Volume	833,391	1,750,182	375 Hamlet at Elsinore	8,701,092 The Terminator
Initial Price	\$24.44	\$17.92	\$4.60 Moulin Rouge (Jose Ferrer)	\$96.52 King Lear (Ian Holm)
Days to Sale	3.93	5.96	0 (29.7%)	36 Doktor Faustus

Table 2 shows the intercorrelations between the dependent variable, days to sale, and the five other variables. For the control variables in the table, the simple correlations reflect their baseline relationship with days to sale. Valence and volume have a negative relationship with days to sale, showing that a high mean rating or valence and a high volume are associated with a

shorter time to sell a product. This is in keeping with both H1 and H2. Initial price is positively correlated with days to sale, with a higher price resulting in longer time to sell.

Table 2 INTERCORRELATION BETWEEN DAYS TO SALE AND INDEPENDENT VARIABLES					
Variable	Valence	Volume	Initial Price	Blu-ray	Criterion
Days to Sale	-.343***	-.198**	.489***	-.217**	-0.007
* $p < .05$, ** $p < .01$, *** $p < .001$					

The negative correlation for Blu-ray shows they sold faster. Additional analyses showed they were also less variable in days to sale according to Levene's Test ($F=21.866$, $p \leq .001$) and, on average, sold 2.77 days faster ($t=4.076$, $df = 199.1$, $p \leq .001$). The quicker sale of Blu-rays may be related to their lower initial price which was, on average, \$6.93 less than the initial price for DVDs. The average initial price for DVDs and Blu-rays were \$26.64 and \$19.71, respectively. DVDs were more likely to include rare or "out of print" offerings than Blu-rays and thus, could command a higher price at times.

Table 3 shows the standardized beta weights for the independent variables at each stage of the sequence of regression analyses with days to sale as the dependent variable. The first analysis shows the results when valence and volume were entered as independent variables. The second analysis shows the addition of initial price to the analysis. The third analysis shows the addition of Blu-ray and Criterion. All regressions are statistically significant ($p \leq .001$).

Table 3 R, F-VALUE AND STANDARDIZED BETA COEFFICIENT FOR FOUR REGRESSIONS							
			Standardized Beta Coefficient				
Analysis	R	F-change	Valence	Volume	Initial Price	Blu-ray	Criterion
Reg. 1	0.347	13.596	-.319***	0.053	-	-	-
Reg. 2	0.558	29.808	-.283***	0.027	.449***	-	-
Reg. 3	0.561	18.037	-.271***	0.022	.454***	-0.019	-0.064
* $p < .05$, ** $p < .01$, *** $p < .001$							

Analysis of the bivariate correlations of the variables in Table 3 showed valence and volume had a positive correlation of .453 ($p \leq .001$), suggesting that movies with higher volume also receive higher average ratings. Initial price was a function of competitive factors with price negatively correlated with valence ($r = -.162$, $p \leq .05$), volume ($r = -.216$, $p \leq .01$) and Blu-ray ($r = -.180$, $p \leq .01$) such that better rated products, those with greater visibility as reflected by number of ratings, and Blu-rays started with lower prices.

Blu-ray showed a significant positive correlation ($p \leq .001$) of .508 and .522 with valence and volume, respectively, suggesting that movies offered in Blu-ray tended to be more liked with greater visibility. Criterion showed no significant relationship with valence or Blu-ray, but did

show a significant negative correlation of $-.169$ ($p \leq .05$) with volume reflecting the tendency for Criterion re-issues to be for lesser known movies. None of the variables showed a variance inflation factor (VIF) of greater than 1.6, suggesting there was no multicollinearity problem (O'Brien, 2007).

The results show support for H1. Valence (or mean rating) had a significant negative influence on days to sale in all three regressions. The results do not support H2. Volume of ratings did not show an influence on days to sale in any of the regressions though it did have a modest negative correlation with days to sale.

DISCUSSION

This study sheds new light on the pathways of influence of user reviews on sales of DVDs by examining whether the valence (mean rating) and volume of ratings for DVDs from Netflix relates to the time it takes to sell a new DVD on Amazon. Research has been somewhat contradictory when it comes to the relationship between valence and volume and movie box office sales. This study supports valence as a useful indicator of the time it takes to sell a DVD, one important indicator of sales. Valence showed a negative correlation ($p \leq .001$) on days to sell. This was true when volume, initial price, Blu-ray, Criterion, and release date were entered as controls. In contrast, volume showed no influence on days to sale after controlling for valence, though it showed a negative correlation ($p \leq .01$) with days to sale and a positive correlation ($p \leq .001$) with valence, suggesting better rated DVDs are more likely to be rated.

This study differs from other studies of the relationship of valence and volume of user ratings to sales by studying DVD sales on Amazon and not the early box office sales of movie releases. We suggest that this unique research setting offers a point of integration for conflicting research findings found in the existing literature. That is, we claim that the decision-making processes affecting online DVD sales and box office sales are fundamentally different. Based on cognitive psychological models of decision making, marketing scholars (Payne, 1976; Shocker et al., 1991; Urban et al., 1996) have argued that consumers typically go through two-stage decision making process when choosing a product for consumption. First, they perform a quick initial screening to narrow down their search. Next, they examine the remaining candidates in their consideration sets extensively to make an optimal choice.

It is notable that prior studies that have shown the positive impact of review volume on sales predominantly used box office sales data (Duan et al., 2008; Liu, 2006). One explanation offered for why valence does not always relate to box office revenue is that consumers often make an impulse decision to attend a movie without paying much attention to word-of-mouth content (Liu, 2006). Movie-going experience often involves a group decision. Also, movies typically stay in theaters for a limited time. All of these factors are likely to lead potential movie-goers to skip the second phase of the decision-making process which entails a thorough examination of qualitative information in user reviews. They will use the volume of reviews as a main source of information for decision-making, as it serves as a quick, convenient indicator of popularity.

Valence may have related to sales in this study because a DVD is less of an impulse decision than the decision to go to a movie, allowing more time to investigate and think about user ratings, or ask others what they thought of a DVD. Therefore, potential consumers for DVDs are far more likely to go through the second stage in the decision making process than movie-goers. DVD sales are less time-limited than movie screenings in theaters. Also, unlike movie-going experience, DVD-buying is often for individualistic purposes such as adding to

personal collection or private viewing. Hence, buyers tend to take time to contemplate and examine the candidates thoroughly.

In addition, review valence provides 'evaluative' information that helps potential consumers compare the possible candidates. It may be that the valence of a DVD impacts sales due to its signal value. Once price is a constant, any additional delay to purchase may be due to thoughts that a DVD is not worth viewing, at any price, and it appears that valence provides this information, not volume. Per the Bass model (Bass, 1969), valence should influence purchase by reflecting the views of prior adopters. It is unlikely anyone rates a DVD without having seen it at least once. All in all, findings from this study offer a finer-grained explanation for how user reviews affect consumer choice of entertainment products in the setting of online DVD sales.

Our study not only makes valuable scholarly contributions, but also provide useful implications for practitioners, particularly in the industries where inventory management is critical for market success. Online DVD sellers would certainly fall into this category. While the huge providers of DVDs in the marketplace may already be aware that user reviews are related to DVD sales time, it is not something that has been subject to academic investigation. It appears that those who sell DVDs on Amazon, who do not have the time, experience or resources to create a sophisticated sales forecasting system, can look to one variable to better understand the time it will take to sell a DVD that is competitively priced. There are a fair number of small volume users selling DVDs on Amazon who may fall into this category. That variable is the average rating of the DVD by users, or valence.

Our findings also yield an interesting observation that evaluative information (e.g., user reviews) moves across websites. That is, the source of information that plays a critical role in online consumers' purchase decision is not restricted to the focal website. In this study, we show that the valence of user reviews from Netflix and IMDb had a significant impact on DVD sales on Amazon. That reviews from one website can be a primary source of influence on purchase behavior on other websites has a direct bearing on online vendors' marketing efforts. That is, it is not sufficient for sellers to be attentive to how their products are being evaluated on their own websites. They must also be vigilant in identifying other online forums where their products are frequently reviewed and use the feedback to better their products.

FUTURE RESEARCH

Our study provides several important anchors for future research. First of all, we acknowledge that it was not possible to study how changes in valence and volume over time affected the time it took for a DVD to sell, which is the common approach used to assess the impact of valence and volume on movie box office sales. All of the DVDs sold in a relatively short period of time making it impossible to study change in user ratings. Although time series impacts were likely of minimal consequence in the short period of time considered, conducting longitudinal analysis would be particularly useful to uncover when valence influences purchase decision. As a predictive variable, valence appears to be an important word-of-mouth variable. Its potential impact is consistent with the notion that previous adopters have an influence on future adoption of a product, though the full nature of its impact on buyer behavior, including the timing of its impact, is yet to be fully understood.

Netflix ratings are available for the vast majority of DVDs available for sale, though not all. Amazon ratings are available for all DVDs sold on Amazon, though they do not have nearly the same level of volume as those of Netflix. One avenue of future research is to study the relationship of Amazon ratings to the time it takes for a DVD to sell. Unlike Netflix ratings,

Amazon ratings are immediately observable by a consumer. Study of sales across markets is another potential avenue for further research on valence and volume as predictors of DVD sales. It is now possible for a DVD vendor at Amazon to opt into selling their DVD in the world market outside the U.S.

The DVD sales market is a mediated market where market intermediaries such as reviewers have a crucial impact on end consumers' buying decision. However, few studies have recognized and distinguished types of reviewers (e.g., professional critics' reviews published on Chicago Sun Times vs. lay critics' reviews published on self-run blogs). Our data of reviews came from Netflix user reviews and thus are reflective of the public's view of movies. As the pop culture conversation has become increasingly dominated by blogs and online forums, it is crucial to understand the impact of the reviews provided by laypeople on the cultural products' market outcomes.

Nonetheless, the boundary between professional reviewers and lay reviewers still exists. For example, reviews by a few prominent film critics such as (the late) Roger Ebert have lasting impacts on the public's perception of the movie. Their reviews are more likely to be in a well-structured format, and are likely to reach wider audience. However, will the DVD buyers react to those professional reviews in the same way they do to lay critics' reviews? Whose reviews are more influential in driving the demand from which segment of consumers is an important question to explore. Our data does not distinguish the type of review writers, and it would be interesting to see whether our finding will be replicated across different types of reviewers.

In addition to the type of reviewers, the components of a review may also impact the sales of products. Our main finding that user ratings affect sales suggests that consumers do pay attention to quantitative information provided by review numerics. However, according to Shrum (1991), reviews provide in-depth qualitative information beyond ratings. He argued that modern reviews typically comprise five components (i.e., descriptive, analytic, entertainment, instructive, evaluative). Descriptive elements provide factual information (e.g., length, genre, cast and crew, etc.) about the product, whereas analytic elements provide a reviewer's subjective interpretation of the contents. Entertainment elements refer to the reviewer's expression of humor, wit, or even outrage. Instructive elements are in the form prescriptive statements regarding the products' styles, emphases, or alternatives, though Shrum noted that these elements are relatively rare in contemporary critical discourse.

Finally, evaluative elements are positive or negative judgments which are often expressed in the form of numerical rating. Prior research on user reviews has predominantly focused on this evaluative component of reviews as a possible driver of consumer demand. However, it would also be worthwhile to examine the interaction effect of the other four review components with evaluative component on sales outcome. For example, consumers may perceive reviews with a lengthy description or analysis as more helpful and reliable, which may lead the ratings in those reviews to exert more influence on the consumers' buying decision. Also, experimental research on the impact of the valence and volume of user ratings on the sale of DVDs would be an interesting avenue of research as it might help sort out the conflicting results found to date for the impact of valence and volume on sales. In this study, valence was clearly the dominant factor, not volume.

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