

Early Adopters: Are they Opinion Leaders? (Short Paper)

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מאמצים מוקדמים: האם הם מובילי דעה? (מאמר קצר)

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Abstract

Early adopters are the first to adopt an innovation, but perhaps more importantly, they are thought to encourage adoption by others. Much research has found that early adopters are indeed opinion leaders, and should therefore facilitate the diffusion of innovations (Rogers, 2003). However, these findings contradict the chasm theory (Moore, 2014), which posits that there is a communication break between early adopters and other people.

This research presents a meta-analysis of the profile of early adopters, and specifically examines whether they are opinion leaders. The results suggest that self-perceived early adoption scales may capture highly involved, knowledgeable people who have early adoption tendencies, and believe that they are opinion leaders. However, when primed with their actual adoption behavior, early adopters often acknowledge that they are not as influential as they aspire to be.

Keywords: meta-analysis, early adopters, opinion leaders, the chasm.

Introduction

Early adopters are considered essential to innovations' success. They are the first to adopt an innovation, and, even more importantly, they spread word-of-mouth about the innovation to other people, influencing them into adoption, and triggering a ripple of new technology's success (Goldsmith & Flynn, 1992; Mahajan, et al., 1990; Rogers, 2003). Much research on the extent of early adopters' influence has consistently shown that early adopters are opinion leaders (see a review in Bartels & Reinders, 2011). However, these findings contradict the chasm theory (Chandrasekaran & Tellis, 2011; Libai, et al., 2009; Moore, 2014). According to the chasm theory, although early adopters adopt an innovation soon after its launch, they have limited influence over other people, which may lead to a temporary drop (a chasm) in adoption. The chasm theory

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therefore implies that early adopters are not opinion leaders, and do not influence other people to adopt innovations.

Education technology adoption, like adoption of other innovations, is ignited by early adopters and may need to overcome resistance to change (Chesney & Benson, 2012), thus a chasm emerges in such innovations as well (Elgort, 2005; Loogma et al., 2001).

This research presents a meta-analysis to explore who early adopters are and especially whether they are opinion leaders.

Measurement of early adopters

Early adoption has been measured using two types of scales (see a review in Bartels & Reinders, 2011). The first type is *actual early adoption* behaviors, such as the number of innovations a person adopted.

The second type is *subjective early adoption* of innovations. In these scales, people report to what extent they consider themselves to be early adopters.

We suggest that the subjective early adoption scale may capture a broader construct of people who love innovations and show high involvement and knowledge. They tend to (or would like to) adopt early, and they believe that they are opinion leaders. Actual early adopters are less likely to overestimate adoption and other related traits, such as opinion leadership. First, they report whether or not they adopted specific products, which is a more objective measurement of early adoption. Moreover, viewing a list of specific products may bring to mind specific consumption situations and their outcomes, such as for example, whether they influenced others into adoption as well (Morwitz, 1997).

Meta-analysis of early adopters

The meta-analysis was conducted on 116 unique studies reported in 103 papers published between 1967 and 2018. The meta-analysis explored the correlations of early adoption with opinion leadership, involvement, knowledge (actual and perceived), and trial intentions. All the early adoption scales were combined into a single early adoption index, but the type of scale (actual or subjective) serves as a moderator. The meta-analytic estimates were calculated using the Hedges and Olkin (1985) method (Field, 2001).

Results

Results of the meta-analysis, as presented in Table 1, showed a high correlation between early adoption and opinion leadership ($r = .39$), suggesting that early adopters could be expected to facilitate the diffusion of the innovation in the market, and thus, a chasm should not emerge.

The weighted averaged correlations between early adoption and involvement ($r = .43$), trial intentions ($r = .33$), and subjective knowledge ($r = .43$) are rather high. Yet, the fact that the correlations of early adoption with involvement and knowledge are higher than their correlation with trial intentions (which is a logical behavior of early adopters) questions the accuracy of the early adoption measurements. In addition, early adoption is highly correlated with subjective knowledge ($r = .43$), but this strong correlation drops significantly when knowledge is measured by objective knowledge tests ($r = .12$, $t(36) = 3.91$, $p < .01$).

Table 1. Correlates of early adopters

Characteristic	<i>n</i>	<i>k</i>	<i>r</i> ¹	<i>LCL</i>	<i>UCL</i>	<i>Q</i> ¹
Opinion leadership	17,108	54	.39	.37	.40	1,410
Involvement	18,947	59	.43	.42	.44	1,132
Trial intentions	15,730	35	.33	.31	.34	333
Subjective knowledge	6,684	25	.43	.41	.45	508
Objective knowledge	2,578	13	.12	.08	.16	115

n is the number of participants across studies for each characteristic; *k* is the number of studies (samples) in each characteristic; *r* is the average weighted uncorrected correlation across all studies; *LCL* is the 95% lower confidence limit; *UCL* is the 95% upper confidence limit; *Q* is the Q-statistics for homogeneity. A significant Q means that the studies may not be estimating the same population.

¹ All *r* and *Q*'s are significant at the .05 level or below.

These results support the idea that the measurement of early adoption may capture people who love innovations, and report high early adoption tendencies and other related consumption behaviors such as opinion leadership, involvement, trial intentions, and knowledge. However, the fact that their objective knowledge is much lower than their subjective knowledge confirms that they overestimate their knowledge. They may also overestimate their consumption behaviors, including their opinion leadership.

Moderation analysis

In addition to understanding early adopters' correlates we explored how the measurement of early adoption moderates these correlations by comparing subjective and actual early adoption scales. We ran weighted analyses of variance. The dependent variables were the 5 correlations and the independent variable was the type of scale (subjective or actual adoption of innovations), and controlling for the year each study was published. The results are presented in Table 2.

Subjective early adopters have significantly higher correlations with opinion leadership ($r = .56$), involvement ($r = .47$), trial intentions ($r = .34$), and subjective knowledge ($r = .48$), compared with actual early adopters (r 's = .22, .29, .12, and .29, respectively). This suggests that those who rate themselves as high on subjective early adoption are highly involved with the innovation and perceive themselves as being more knowledgeable and influential, compared to those who rate themselves low on subjective early adoption. Actual early adopters possess these traits as well (compared with non-adopters), but to a lesser extent. These results strengthen the idea that the two types of scale capture somewhat different people. We suggest that the subjective scale capture people who love innovations and overestimate their traits and behaviors regarding innovations, while the actual scale captures "true" early adopters, which are not as influential as past research claims.

Table 2. Moderation analyses

Characteristic	Subjective early adoption			Actual early adoption			ANOVA F statistic	
	<i>n</i>	<i>k</i>	<i>r</i> ¹	<i>n</i>	<i>k</i>	<i>r</i> ¹	year	Scale
Opinion leadership	7,659	31	.56	9,128	22	.22	20.20**	5.95*
Involvement	14,500	43	.47	4,447	16	.29	.37 ^{NS}	4.67*
Trial intentions	14,923	33	.34	807	2	.12	.12 ^{NS}	4.92*
Subjective knowledge	4,833	18	.48	1,851	7	.29	2.04 ^{NS}	5.64*
Objective knowledge	2,180	9	.13	398	4	.07 ^{NS}	1.39 ^{NS}	.81 ^{NS}

The table presents the average weighted correlations between early adoption and the five correlates for two types of measurements of early adoption: *subjective* and *actual*. In addition, it presents the results of analysis of variance of the difference between the two measurements, controlling for year of publication.

¹ All *r*'s are significant at the .05 level or below unless marked by *NS*.

* Significant at the $p < .05$ level.

** Significant at the $p < .01$ level.

^{NS} Not significant.

Discussion

The results offer a resolution of the contradiction between the consistent findings of early adopters as opinion leaders, and the chasm theory that claims that early adopters do not influence others. Early adopters aspire and believe themselves to be opinion leaders, but when they adopt an innovation they may realize that no one follows.

The paper contributes to the theoretical and managerial understanding of who early adopters are, and whether they act as opinion leaders. Moreover, while behavioral researchers concur that early adoption is highly correlated with opinion leadership (Rogers, 2003), this correlation is contradicted by the repeatedly documented chasm between early adopters and non-early adopters (Moore, 2014). This is an attempt to reconcile these contradicting findings.

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