



## ROLE OF RISK TAKING PROPENSITY AND INNOVATIVENESS ON ENTREPRENEURIAL ORIENTATION AMONG STUDENTS

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### Abstract

*The purpose of the present study is to explore the entrepreneurial characteristics of college students and comparing the entrepreneurially inclined and not inclined students. In specific, the characteristics of risk propensity and innovativeness which were found as most crucial in characterizing potential entrepreneurs were taken for in depth study. Judgement sampling was used for collecting data. Results indicate that the levels of risk taking propensity and innovativeness vary across students' career options. The study helps to further understand the differences in traits that are important for entrepreneurs between entrepreneurially oriented and non-oriented students. It is important because that understandability can be used to foster students who are more prone to be potential entrepreneurs. Moreover there are various skills that can be taught and trained, so that the students in Higher Education Institutions can be exposed to such awareness programmes and training thus diverting more students to consider the option of entrepreneurship as a likely career option.*

**Keywords:** Career Option, Entrepreneurial Orientation, Innovativeness, Risk Propensity.

### INTRODUCTION

Entrepreneurship research has been very much an important research agenda for quite sometime. This interest is largely because entrepreneurship has the power to revitalize economy in times of economic stagnation and in generating job opportunities and giving a push to income generating activities. Also it is considered as a potential catalyst for idea generation leading to technological progress, product and market innovation (Mueller and Thomas, 2000; Jack and Anderson, 1999). A vital component of a successful economy is entrepreneurship as it can create jobs and help keep money in their local communities. It is important in all types of economy in order to exploit economic opportunities available and is considered as one of the solutions to poverty and unemployment.

Most economies are paying attention to the need for development of this field and to development of entrepreneurial skills, attitudes, and culture. Researchers have investigated the antecedents of entrepreneurial success and used these as proxies for, or inferences of, its presence. Antecedents of entrepreneurial success are readily identified in the literature and include economic, psychological, sociological, and management factors. Black et al. (2010) investigated the likely traits, skills, or abilities present in individuals to predict

entrepreneurial success. In that sense study of traits within an individual indicating potential entrepreneurship is an important avenue for research.

In line with the global trends, India has also been promoting policies for encouraging startups, entrepreneurship and liberalized various regulations for giving an impetus to emerging ventures. Indian economy is promoting entrepreneurship in many ways. The governmental policies and programmes are giving high thrust to entrepreneurs, start-ups and lightened the entry requirements to a small scale business. Especially, if the present situation of digitization, developments in information technology and access to market via online means are considered, it has lowered the barriers to entry into new businesses. More startups and entrepreneurs also mean newer jobs and economic activity and several subsidiaries and allied sectors also get a spark. India, being a nation with high demographic dividend has great scope for progress by supporting new ventures. In that sense, the study of entrepreneurial orientation of students graduating from educational institutions to understand the traits that are peculiar to potential entrepreneurs would add value to EO research.

Evidence strongly suggests that entrepreneurial orientation (EO) remains a vibrant research topic (Covin & Wales, 2019). The EO research can be broadly classified into EO as an attribute of organization or EO as an attribute of an individual. EO, as an attribute of organizations, is a behavioral construct that is defined by firm actions (Covin & Wales, 2019). Miller (1983) proposes that an entrepreneurial firm is one that focuses on innovation in its actions, is open to risk and proactively concerns its competitors. EO as an attribute of individual determines to what extent that individual has traits that are considered as traits of a successful entrepreneur.

If one is to look at the research of EO at the individual level, it can be broadly classified as trait/personality factors, social factors and environmental factors. A search of the trait/personality factor research in entrepreneurship has identified several characteristics that tend to distinguish entrepreneurs from others. The study of individual/personal factors is called the trait model. The personality approach to identifying entrepreneurial tendencies mainly base on the direct measurement of personality traits or motivational tendencies possessed by entrepreneurs. The social factors model envisages family background, education, social status (Rokhman & Ahamed, 2015). Environmental factors looks at the contextual factors such as value of wealth, tax reduction and indirect benefits, timing of opportunities in the career process, the impact of market conditions (Alstete, 2002) social upheaval, supportive social and economic culture (Green et al., 1996).

A very popular method to study entrepreneurial research orientation is to focus on the personality characteristics of entrepreneurs (Koh, 1996). It is based on the assumption that entrepreneurs can be identified by certain specific characteristics that they have and these personality characteristics are what gives them a momentum to start new ventures or become entrepreneurs. It is based on the assumption that the presence/absence of these characteristics is indicative of their orientation to entrepreneurship and serves as a base in distinguishing whether a person is a potential entrepreneur or not. Various researchers have studied various combinations of traits/factors. The literature review below will give a glimpse of the studies in that level.

## LITERATURE REVIEW

In a study done by Choo & Lee (2018), to study entrepreneurial orientation and business success, they the authors look for the role of entrepreneurship education in the influence of entrepreneurial orientation on financial and nonfinancial business performance. They found that innovative progressiveness affected non-financial business performance and risk-taking propensity did not influence both financial business performance and nonfinancial business performance. Also they reported that entrepreneurship education had no connection with entrepreneurial orientation or business performance. They also found that, in their study, entrepreneurship education for experienced entrepreneurs is not as effective as that for students.

Guroi & Atsen (2006) made a study to explore the entrepreneurial profile in a Turkish university in terms of six traits as need for achievement, locus of control, risk taking propensity, tolerance for ambiguity, innovativeness and self-confidence. Base on a screening question, they identified potential entrepreneurs and made a comparative analysis of the entrepreneurial oriented students and entrepreneurially not inclined students. Their results based on t-tests showed that four entrepreneurial traits as risk taking propensity, internal locus of control, higher need for achievement and higher innovativeness to be higher in entrepreneurially inclined students. They however stood low on traits as tolerance for ambiguity and self-confidence when compared with entrepreneurially non-inclined students.

Fisher, Maritz and Lobo (2013) undertook a study to identify what it means to be success by entrepreneurs. Entrepreneurs perceive entrepreneurial success as the presence of both personal and macro level variables. This research supports theorizing that suggests entrepreneurial success is a multidimensional construct best captured by more than financial and economic indicators. the construct entrepreneurial success is a combination of personal and business performance indicators: the entrepreneur's feelings of satisfaction and personal expectations for their life and business, combined with continuous business growth and exceeding business goals.

Pruett et.al. (2008) studies entrepreneurial intentions. The paper surveyed over 1,000 students at universities in the USA, Spain, and China. Across cultures, university students share generally similar views on motivations and barriers to entrepreneurship, but with some interesting differences. Further, while cultural and social dimensions explain only a small portion of intentions, psychological self-efficacy (disposition) is an important predictor. The antecedents they studies where cultural factors, entrepreneurial exposure, family support, entrepreneurial disposition, perception of motives and perception of barriers. As suggested by the results of this study, a respondent's country, entrepreneurial exposure and social norms help explain students' entrepreneurial intentions. Students with family members who are entrepreneurs are more likely to start their own businesses. Unsurprisingly, the expected supportiveness of family reactions to entrepreneurship is positively related to intentions. They finally observed that personal characteristics are important in entrepreneurial intentions.

The studies by Miller (1983) has been based by various researches in their research in EO. He advocates that entrepreneurial orientation is the propensity of an individual to identify the changing nature of businesses and market needs and seeking for new innovations by even investing into it in spite of the risk of success or failure inherent in that investment decision. In the present study two traits were used to characterize the entrepreneurial

profile of students. These are risk taking and innovativeness. These characteristics were chosen since they are frequently cited in different studies in the entrepreneurship literature. These traits are considered as indicative of an entrepreneurial inclination of people generally. This is with due understanding of the fact that these two traits are only representative and they are not conclusive in nature to define entrepreneurial inclination. There are various other variables considered important in entrepreneurial inclination of individuals, but the scope of this paper is to look at risk taking propensity and innovativeness as these are the most important and inevitable ones.

## **KEY VARIABLES**

### **RISK TAKING PROPENSITY**

Much of economics and entrepreneurship literature includes risk-taking as a major entrepreneurial characteristic (Palmer, 1971; Kilby, 1971). Risk taking propensity refers to the propensity of an individual to exhibit risk taking or risk avoidance when confronted with risky situations. A peculiar characteristic of entrepreneur is that they tend to take risks. These risks relate to capital, time and to face uncertainty in their livelihood. An important attribute that characterizes entrepreneur is the willingness to face uncertainty (Kihlstrom & Laffont, 1979).

Miller (1983) proposed that successful businesses tend to take risks. Risk propensity refers to the tolerance to risks. It is an important factor that distinguishes a person who choose to become an entrepreneur and a person who choose to be a salaried employee. Drucker (1985) reports that the orientation and the propensity to take risk and innovativeness of a person can impact the success of a business venture.

### **INNOVATIVENESS**

Innovativeness is the focal point of entrepreneurship (Schumpeter, 1934). Innovativeness relates to perceiving and acting on business activities in new and unique ways (Robinson et al., 1991). According to Gurol and Atsan, 2006, "Innovation has a comprehensive definition including to create new products or new quality, to create new methods of production, to get into a new market, to create a new source of supply or to create new organization or structure in business". Miller (1983) advocates that common characteristics found among entrepreneurs are that they show high innovativeness and proactiveness. He further observed that these are important aspects in entrepreneurial orientation. Such people have an innate quality to identify new opportunities, products, processes and new markets. In some cases it takes the form of improved efficiency of an already available product or services. Evidence reported in the entrepreneurship literature shows that entrepreneurs are significantly more innovative than non-entrepreneurs (Ho and Koh, 1992). Previous researchers opine that entrepreneurs are always looking for new opportunities (Zacharakis, 1997).

### **SIGNIFICANCE OF ENTREPRENEURIAL ORIENTATION AMONG STUDENTS**

Although it is possible to identify entrepreneurial profile and its relation with entrepreneurial success to an extent, it is also worthwhile pondering on how these traits can be developed. As Zeng and Honig (2016) reports, it is important to note the possibility of developing entrepreneurial characteristics. A major role towards that end can be implemented by educational institutions (Henry et al., 2005; O'connor, 2005; Maritz, 2017).

The current study focuses on college students because they stand at one of life's inflection points, one at which they think about their careers. With growth in international travel, prominence of study abroad options, access to technology especially, the internet and social media, students around the world are more inter-connected than ever before and more exposed to foreign trends and ideas, and more able to share their ideas. Some research indicates that modernity values are becoming increasingly important for youngsters (Zhang & Shavitt, 2003).

Furthermore it can be found from literature that in entrepreneurship, it is important to know how to reduce risks, potential sources of innovation and ideas, techniques of market analysis, design thinking tools, feasibility analysis etc. (Lumpkin & Dess, 2001; Wiklund & Shepherd, 2005).

The role of entrepreneurship education has been called for as one of the key instruments to increase the entrepreneurial attitudes of people (Potter, 2008). The characteristics or skills required for a potential entrepreneur varies. There is a need to make people aware of the option of entrepreneurship as a career. Equally important is to nourish and enrich the traits that are considered very crucial for entrepreneurial success. This will be most effective in educational institutions. Many of such skills can be taught and learned. The educational premises are the one most important place where there is lot of energy and space, where like students begin thinking about ideas and career. Hence the present study has been undertaken in an educational setting to identify whether the factors of risk propensity and innovativeness are potentially high on entrepreneurially inclined students as against non inclined students.

## **RESEARCH DESIGN AND METHODOLOGY**

In order to attain the purpose of the study, final year students of colleges and Universities were chosen as sample. Certain key characteristics as risk propensity and innovativeness were found from the literature to be potentially important in entrepreneurial success.

Hypotheses are formulated as follows:

H1: There exists significant difference in risk taking propensity across students' career option

H2: There exists significant difference in risk innovativeness across students' career option

Standardized scales for the identified variables were used to collect data from the sample. The data collection was done on an online mode employing judgmental sampling technique. The data collection was administered using questionnaire survey method. There were 14 questions including a question related to their inclination to be a potential entrepreneur. The second section of the questionnaire had research instruments to measure the identified constructs of risk taking propensity and innovativeness. In total 213 samples were received and out of which 193 were usable responses after data cleaning.

## **RESEARCH INSTRUMENT**

To measure risk propensity and innovativeness, a thirteen items scale were used, five questions for risk taking propensity (Chye, 1996) and eight statements for innovativeness from Jackson's Personality Index (Jackson, 1994). SPSS 21 was used for empirical analysis. Each survey question uses the Likert scale as a tool of measurement and had

choices ranging from 1 point standing for “Strongly disagree” to 5 points standing for “Strongly agree”. The question in the initial part for measuring the inclination of the students to entrepreneurship was done by posing a question “Career option after completing graduation”, which had four options as “I plan to choose entrepreneurship as my career”, “Salaried employee in private sector”, “Salaried employee in public sector”, “pursue entrepreneurial career after five years of salaried job to manage capital”. Out of total 13 statements 6 were negative statements and were reverse coded at the time of feeding the data into the software. This was done with a view to minimize the bias of the responses (Nunnally & Bernstein, 1978).

## RESULTS

Exploratory factor analysis was used to determine whether indicators were loading under their respective variables. For the purpose of extraction of the factors, principal axis factor method with varimax rotation method was employed. Results of exploratory factor analysis showed loadings above 0.4 for all the indicators coming under each factor and average loadings above 0.6 for each factor which is found to be significantly satisfactory (Hair et al., 2012). The correlation between risk taking propensity and innovativeness is 0.398. The two variables are correlated at .001 significant level. To test the internal consistency and reliability of the subscales, Cronbach’s alpha was used. Reliabilities of two scales are have been found above 0.70 thus showing that all the subscales are having internal consistency and measuring the same concept. (Refer table 1).

**Table 1**  
**Exploratory Factor Analysis and Scale Reliabilities**

Variable	Indicators	Loading	Reliability
Risk taking propensity	RTP-1	.759	.796
	RTP-2	.684	
	RTP-3	.699	
	RTP-4	.752	
	RTP-5	.731	
Innovativeness	Innovative-1	.481	.811
	Innovative-2	.672	
	Innovative-3	.617	
	Innovative-4	.734	
	Innovative-5	.636	
	Innovative-6	.639	
	Innovative-7	.645	
	Innovative-8	.684	

(Source: Primary data)

## RISK TAKING PROPENSITY AND CAREER OPTION

The first hypothesis of the present study is to understand whether there is variability in risk taking propensity of students across their career options. The four career options provided in the study were a) I wish to be an entrepreneur b) interested in private sector employment c) interested in public sector jobs d) will be an entrepreneur in next 5 years. To test the hypothesis One-way ANOVA was done using SPSS 21. Results reveal that there is a significant difference on students’ perception of risk taking propensity across their career options. See table 2.

**Table 2**  
**Risk taking propensity across career options**

	Sum of squares	DF	Mean Square	F	Sig.
Between Groups	19.250	3	6.417	19.168	.000
Within Groups	63.270	189	.335		
Total	82.520	192			

*(Source: Primary data)*

Since p value is less than .05 it can be concluded that some of groups have some difference.

A post hoc test showed that there exist significant difference in perception of risk propensity for students' who desire entrepreneurship/want to become entrepreneur in next five years and the group of students who want to work as a salaried employee in private and public sector. But no difference in risk propensity perception was found between the group of students who want to be entrepreneurs and those who plan to be entrepreneurs in next five years. Similarly no significant difference in risk perception was found between the group of students who desire to work as a salaried employee in private/public sector. The post hoc test results and mean of risk propensity perception of different student groups are given in the table 3 and 4 below:

**Table 3**  
**Multiple Comparisons-Risk taking Propensity**

(I) career option	(J) career option	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
ENTREPRENEURSHIP	PRIVATE SECTOR	.63370	.15817	.001	.2237	1.0437
	PUBLIC SECTOR	.67766*	.14257	.000	.3081	1.0472
	ENTREPRENEUR IN 5 YEARS	.03870*	.13689	.992	-.3161	.3935
PRIVATE SECTOR	ENTREPRENEURSHIP	-.63370	.15817	.001	-1.0437	-.2237
	PUBLIC SECTOR	.04397*	.12741	.986	-.2863	.3742
	ENTREPRENEUR IN 5 YEARS	-.59500	.12102	.000	-.9087	-.2813
PUBLIC SECTOR	ENTREPRENEURSHIP	-.67766*	.14257	.000	-1.0472	-.3081
	PRIVATE SECTOR	-.04397*	.12741	.986	-.3742	.2863
	SALARIED THEN ENTREPRENEUR	-.63897	.09978	.000	-.8976	-.3803
ENTREPRENEUR IN 5 YEARS	ENTREPRENEURSHIP	-.03870*	.13689	.992	-.3935	.3161
	PRIVATE SECTOR	.59500	.12102	.000	.2813	.9087
	PUBLIC SECTOR	.63897*	.09978	.000	.3803	.8976

\*. The mean difference is significant at the 0.05 level.

*(Source: Primary data)*

**Table 4**  
**Descriptives- Risk taking propensity**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
ENTREPRENEURSHIP	23	3.8087	.57360	.11960	3.5607	4.0567	2.40	4.60
PRIVATE SECTOR	32	3.1750	.58088	.10269	2.9656	3.3844	2.00	4.60
PUBLIC SECTOR	58	3.1310	.52523	.06897	2.9929	3.2691	1.40	4.20
ENTREPRENEUR IN 5 YEARS	80	3.7700	.61467	.06872	3.6332	3.9068	2.00	5.00
Total	193	3.4839	.65559	.04719	3.3909	3.5770	1.40	5.00

(Source: Primary data)

## INNOVATIVENESS AND CAREER OPTION

The second hypothesis of the present study is to understand whether there is variability in innovativeness of students across their career options. The four career options provided in the study were a) I wish to be an entrepreneur b) interested in private sector employment c) interested in public sector jobs d) will be an entrepreneur in next 5 years. To test the hypothesis One-way ANOVA was done using SPSS 21.0. Results (Table 5) reveal that there is a significant difference on students' perception of innovativeness across their career options.

**Table 5**  
**Innovativeness across Career Options**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	42.837	3	14.279	71.741	.000
Within Groups	37.618	189	.199		
Total	80.455	192			

(Source: Primary data)

Since p value is less than .05 it can be concluded that some of groups have some difference.

A post hoc test revealed that innovativeness level of students who wish to become an entrepreneur is different from the group of student who wish to work in private/public sectors. Also it was noted that there is significant difference between the students' who wish work in public and private sector in their innovativeness levels. Also there exists difference in the innovativeness level between the students groups who wish to work in private/public sector and the student groups who desire to become entrepreneur in the next five years. But there is no significant difference in the level of innovativeness across the group of students who have entrepreneurial inclination (who want to be entrepreneurs / want to be entrepreneurs in five years). See Table 6.

**Table 6**  
**Multiple Comparisons-Innovativeness**

(I) career option	(J) career option	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
ENTREPRENEURSHIP	PRIVATE SECTOR	.83713*	.12196	.000	.5210	1.1532
	PUBLIC SECTOR	1.21711*	.10993	.000	.9322	1.5021
	ENTREPRENEUR IN 5 YEARS	.23478	.10555	.120	-.0388	.5084
PRIVATE SECTOR	ENTREPRENEURSHIP	-.83713*	.12196	.000	-1.1532	-.5210
	PUBLIC SECTOR	.37998*	.09824	.001	.1253	.6346
	ENTREPRENEUR IN 5 YEARS	-.60234*	.09332	.000	-.8442	-.3605
PUBLIC SECTOR	ENTREPRENEURSHIP	-1.21711*	.10993	.000	-1.5021	-.9322
	PRIVATE SECTOR	-.37998*	.09824	.001	-.6346	-.1253
	ENTREPRENEUR IN 5 YEARS	-.98233*	.07694	.000	-1.1818	-.7829
ENTREPRENEUR IN 5 YEARS	ENTREPRENEURSHIP	-.23478	.10555	.120	-.5084	.0388
	PRIVATE SECTOR	.60234*	.09332	.000	.3605	.8442
	PUBLIC SECTOR	.98233*	.07694	.000	.7829	1.1818

(Source: Primary data)

The descriptive statistics of innovativeness across four career options are given Table 7 below:

**Table 7**  
**Descriptives-Innovativeness**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					ENTREPRENEURSHIP	23		
PRIVATE SECTOR	32	2.9727	.38591	.06822	2.8335	3.1118	2.25	4.00
PUBLIC SECTOR	58	2.5927	.47386	.06222	2.4681	2.7173	1.75	4.13
ENTREPRENEUR IN 5 YEARS	80	3.5750	.44098	.04930	3.4769	3.6731	2.75	4.50
Total	193	3.2079	.64733	.04660	3.1160	3.2998	1.75	4.63

(Source: Primary data)

The correlation between risk taking propensity and innovativeness is 0.398. The two variables are correlated at .001 significant level.

## DISCUSSION OF RESULTS

The research was done with the objective to explore the entrepreneurial characteristics of college students and comparing the entrepreneurially inclined and not inclined students. In depth study of two traits were done- risk taking propensity and innovativeness which were found as most crucial in characterizing potential entrepreneurs. Judgement sampling was used for collecting data. The study uses the data analysis techniques of Exploratory factor

analysis, checks for internal consistency of the measures with Cronbach's alpha, correlation and finally ANOVA and Multiple comparisons using Post-hoc tests to find the significant difference across various career options within the constructs of risk taking propensity and innovativeness. The first hypothesis of the present study is to understand whether there is variability in risk taking propensity of students across their career options as per the following classification: a) I wish to be an entrepreneur b) interested in private sector employment c) interested in public sector jobs d) will be an entrepreneur in next 5 years. The analysis showed that there exist significant difference in perception of risk propensity for students' who desire entrepreneurship/want to become entrepreneur in next five years and the group of students who want to work as a salaried employee in private and public sector. But no difference in risk propensity perception was found between the group of students who want to be entrepreneurs and those who plan to be entrepreneurs in next five years. Similarly no significant difference in risk perception was found between the groups of students who desire to work as a salaried employee in private/public sector. It clearly indicated that those groups with high risk taking propensity are more likely to consider the option of entrepreneurship. Whereas those likely to choose an employment are not keen on tolerating risky situations.

The second hypothesis of the present study is to understand whether there is variability in innovativeness of students across their career options. The four career options across which it was tested is same as in testing of hypothesis one in the above paragraph. The analysis revealed that innovativeness level of students who wish to become an entrepreneur is different from the group of student who wish to work in private/public sectors. Also it was noted that there is significant difference between the students' who wish work in public and private sector in their innovativeness levels. Also there exists difference in the innovativeness level between the students groups who wish to work in private/public sector and the student groups who desire to become entrepreneur in the next five years. But there is no significant difference in the level of innovativeness across the group of students who have entrepreneurial inclination. This results indicate that innovativeness is something that is present across various career options as public/private/entrepreneurial. However the levels and forms may vary. When it is exhibited by employees in a particular sector, it can take the form of newer methods of doing an existing task or resource optimization and the like. Whereas the mean obtained for innovativeness by students having an entrepreneurial inclination is more than those likely to opt an employment. It is the least in students likely to take up employment in public sector as it is commonly considered that there is minimum freedom to deviate from laid down structures and regulations in such public sector jobs.

The study helps to further understand the differences in traits that are important for entrepreneurs between entrepreneurially oriented and non-oriented students. It is important because that understandability can be used to foster students who are more prone to be potential entrepreneurs. A dominant trend in entrepreneurship research has been to focus on individual characteristics as predictors of entrepreneurial success (Nga & Shamuganathan, 2010).

## CONCLUSION

Starting and owning a business typically is riskier and more demanding than paid employment, and we should expect that an entrepreneurial livelihood would attract, and indeed depend on individuals with a well-developed sense of confidence in ones strength, ability to take risks and open to newer ideas.

According to Pruett et al. (2009), the most influential predictor of entrepreneurial intentions is personal – an individual's perceptions of his or her own entrepreneurial spirit. They report that managerial tools and processes alone is not enough. It is required to foster other favourable traits to get students deeply interested in entrepreneurship and ready to embark on new ventures. Innovation is something that can be taught instilled from school to the university level (Kuratko, 2005; Hindle, 2007). Hence the study further reiterates the importance of embedding these factors in the educational pedagogy so that more students get the exposure to entrepreneurial success stories and consider the option to choose it as a career.

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