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Differences between Men and Women in Opportunity Evaluation as a Function of Gender Stereotypes and Stereotype Activation

Vishal K. Gupta
Daniel B. Turban
Ashish Pareek

Opportunity evaluation represents a core aspect of the entrepreneurial process. Prior research suggests that evaluation of new opportunities is influenced by biases rooted in subjective beliefs, values, and assumptions. In the present study, we used stereotype activation theory to propose that respondent gender (men–women), content of stereotype (masculine–feminine), and the manner in which stereotype information is presented (subtle–blatant) interact to influence evaluations of a new business opportunity. We found that both masculine and feminine stereotype activation influenced men and women’s evaluation of a business opportunity differently depending upon whether the stereotype was blatantly or subtly activated. Our results indicate that gender stereotype activation can both boost and impede men and women’s subsequent actions on entrepreneurial tasks such as opportunity evaluation, depending on the content of the stereotype and the manner in which it is presented. Implications and directions for future research are discussed.

Introduction

Considerable evidence indicate that gender stereotypes can contribute to substantial differences between men and women in business settings worldwide (Baron, Markman, & Hirska, 2001). Notwithstanding the large numbers of women entering the workplace in recent decades, leadership positions in most business organizations continue to be held by men (Orser, Riding, & Manley, 2006). Such differences between men and women are also found in entrepreneurial tasks like evaluation of new business opportunities (Heilman & Chen, 2003). Theoretical research and empirical evidence indicate that men often show greater proclivity than women to recognize new business opportunities as worth pursuing (Arenius & De Clerq, 2005). Favorable assessment of opportunities is central to the

Please send correspondence to: Vishal K. Gupta, tel.: ••; e-mail: vgupta@binghamton.edu, to Daniel B. Turban at turban@missouri.edu, and to Ashish Pareek at ashpareek@yahoo.com.

1 entrepreneurial process, whether it is individuals acting on their own to start a new
2 business or within established companies to lead a new product–market initiative
3 [4] (Nicolau, Shane, Cherkas, & Spector, 2009). Consequently, there has been considerable
4 interest in why, when, and how some people evaluate opportunities positively, while
5 others cannot or do not (Chiles, Bluedorn, & Gupta, 2007).

6 One factor that may play a critical role in the perpetuation of gender differences in
7 [5] society is the dissemination of stereotypical images (Davies, Spencer, & Steele, 2005).
8 Researchers have noted that mass media—television, films, newspapers, and magazines—
9 often convey gender-stereotypical information, which makes stereotypes salient and can
10 influence individual choices and decisions (Nosek, Banaji, & Greenwald, 2002). Specifi-
11 cally, stereotype activation theory (SAT) posits that *subtle* presentation of gender-
12 stereotypical information leads people to respond in stereotype-consistent ways (Wheeler
13 & Petty, 2001), while *blatant* presentation of the same information motivates stereotype
14 disconfirmation (Nguyen & Ryan, 2008). Although several studies have explored gender
15 stereotype activation effects (Schmader, Johns, & Forbes, 2008), a major limitation is that
16 nearly all of this research has involved masculine stereotypes, and thus, we know little
17 about the activation of feminine stereotypes (Bergeron, Block, & Echtenkamp, 2006).

18 In the current study, we examine the impact of activating a masculine and feminine
19 stereotype, subtly and blatantly, on evaluation of a new business opportunity by men and
20 women. Our study extends SAT research to opportunity evaluation, a perceptual task
21 involving analysis and intuition to identify meaningful patterns in ambiguous information
22 about emergent events and trends (Baron & Ensley, 2006). We describe entrepreneurship
23 using feminine as well as masculine stereotypical attributes to examine whether simply
24 changing the content of information presented influences evaluation of new business
25 opportunities. We theorize and empirically test our predictions in India, which helps
26 highlight the influence of sociocultural factors on the operation of stereotype activation
27 (Smith & White, 2002) and redresses the under-representation of samples from emerging
28 [6] economies in management research (Nadkarni & Herrmann, 2010). Furthermore, in
29 constructivist societies, such as India, attributes are considered amenable to change (Sinha
30 & Kanungo, 1997), and thus, the effect of stereotype activation is likely to be stronger than
31 in essentialist societies (Eriksson & Lindholm, 2007). Additionally, as noted by the Global
32 Entrepreneurship Monitor (GEM), the rate of entrepreneurial activity in India (~18%) is
33 well above the global average (~6%) and is one of the highest in the world (Manimala,
34 2002).

35 To foreshadow, we will propose that opportunity evaluation is influenced by an
36 interaction between the content of stereotypical information (masculine–feminine),
37 manner in which it is presented (subtle–blatant), and respondent gender (men–women).
38 We first present the theory and logic describing the hypothesized effects of activating,
39 blatantly and subtly, a masculine stereotype, and then describe the hypothesized effects for
40 a feminine stereotype. These two predictions when combined describe the pattern of our
41 hypothesized three-way interaction between content of the stereotype, the manner in
42 which it is presented, and the gender of the person.

43 44 **Theoretical Background**

45
46 Entrepreneurial activity is a result of individuals favorably evaluating business oppor-
47 tunities to introduce new goods and services (Chiles et al., 2007). In modern market-based
48 societies, when a positive evaluation of new opportunities is met by the motivation and
49 potential to pursue them, the outcome is the launch of new endeavours (Bygrave, Hay, Ng,

1 & Reynolds, 2003). Prior research distinguishes between enterprising individuals who are
2 pulled toward entrepreneurship from those who are pushed into it (Schjoedt & Shaver,
3 2007). Pull factors are essentially intrinsic elements such as self-fulfillment, indepen-
4 dence, desire for wealth, status, or power, whereas push factors are aspects of necessity
5 such as insufficient family income, difficulty in finding gainful employment, and the need
6 T for flexible work schedule (Shepherd & DeTienne, 2005). Regardless of whether driven
7 by push or pull factors, entrepreneurial activity requires favorable evaluation of opportu-
8 nity (Solymossy, 2005). Not surprisingly, Eckhardt and Shane (2003) contend that under-
9 standing the opportunity evaluation process represents a core intellectual question for the
10 domain of entrepreneurship.

11 Although conventional economic wisdom advocated an objective value-based per-
12 spective of business opportunities, recent research recognizes individual differences in
13 evaluation of opportunities (Eckhardt & Shane, 2003). The recognition of individual-level
14 variations in opportunity evaluation has led to a growing research stream investigating
15 factors affecting evaluation of new business opportunities (Nicolau, Shane, Cherkas, &
16 Spector, 2009). In particular, evidence indicate that opportunity evaluation is susceptible
17 to biases, such as those rooted in idiosyncratic beliefs, values, and expectations (Baron &
18 Ensley, 2006). Notably, stereotypes—socially shared beliefs about attributes and charac-
19 teristics associated with members of a social group—are a relatively prevalent source of
20 bias that can influence judgments and decisions (Fiske & Taylor, 1991).

21 Stereotypes based on gender tend to be quite influential as gender is a ubiquitous
22 category for stereotyping (Heilman, 2001). Gender stereotypes contain information about
23 widely shared beliefs and norms differentiating the masculine and feminine. Masculine
24 stereotypes associate agentic-instrumental characteristic with men, whereas feminine
25 stereotypes associate communal-expressive characteristics with women: assertive and
26 forceful men and warm and gentle women. These stereotypes are pervasive, and provide
27 relatively well-defined prescriptions for typical male and female behavior (Fiske & Taylor,
28 1991).

30 **Activation of Masculine Stereotype**

31 The presentation of business and entrepreneurship in mass media such as newspapers
32 and magazines, everyday conversations, and TV programs tend to both represent and
33 perpetuate societal gender stereotypes. The language used to describe a phenomenon—
34 discursive practices—shapes the way people think, remember incidents, compose
35 meaning, and make sense of events (Fletcher, 2007). As noted by Ahl (2007), the under-
36 standing and the meaning of entrepreneurship is influenced by such discursive practices.
37 For example, Smith and Anderson (2004, p. 137) analysed stories about entrepreneurship
38 in a wide variety of genres—personal, fictional, autobiographic, journalistic and research
39 articles—and found that the language used to describe entrepreneurship conveyed a
40 stereotypical image of entrepreneurship. Specifically, entrepreneurship typically is
41 described using a masculine stereotype of a “heroic self-made man . . . driven by the will
42 to conquer, the impulse to fight, [and] to prove oneself superior to others” (Ahl, 2006,
43 p. 599).

44 Stereotypes have traditionally been thought to be relatively stable and to have a
45 consistent impact on behavior (Nosek et al., 2002). However, recent evidence, based on
46 SAT, indicate that how stereotypical information is presented can influence subsequent
47 behavior (Wheeler & Petty, 2001). For example, information can be presented subtly, such
48 that the link between the stereotype and the targeted domain is implicit, or blatantly,
49 such that the association between stereotypical information and a targeted domain is

1 explicit and “in-the-face” (Kray, Reb, Galinsky, & Thompson, 2004). Both subtle and
2 blatant activation increase the cognitive accessibility of stereotypical characteristics,
3 which creates a situational predicament that can be felt in situations where one can be
4 judged by, treated in terms of, or expected to fulfill stereotypes about one’s group (Spencer,
5 Steele, & Quinn, 1999). Notably, however, the manner in which stereotypical information
6 is presented—subtly or blatantly—alters the salience of the stereotype, which influences
7 people’s awareness of the stereotype and how they respond to it (Wheeler & Petty).

8 Considerable evidence indicate that subtle presentation of stereotypical information
9 typically leads individuals to think and act in stereotype-consistent ways (Stone, Lynch,
10 Sjomeling, & Darley, 1999). Such stereotype assimilation occurs because stereotypes are
11 connected to one’s behavioral and attitudinal repertoire (Bargh, 1997). Thus, when people
12 are subtly presented with positive stereotypes about their group, they report being more
13 encouraged and exhilarated, whereas subtle presentation of negative stereotypes leads
14 people to report greater anxiety and lower motivation (Schmader et al., 2008). Notably,
15 however, when stereotypical information is blatantly presented, it can induce psychologi-
16 cal reactance and motivate responses inconsistent with the activated stereotype (Brehm,
17 1966). This reactance is a response that exists only in “the context of forces motivating the
18 person to give up the freedom and comply with the threat or elimination” (Brehm &
19 Brehm, 1981, p. 37). Blatant presentation of positive stereotypical information about
20 one’s group increases anxiety about meeting the high expectations imposed by the ste-
21 reotype (Beilock & Carr, 2005), whereas members of the negatively stereotyped group
22 perceive the stereotype as an imposed constraint limiting freedom of choice and action
23 (Brehm). Thus, SAT research suggests that subtle stereotype activation encourages assimi-
24 lation whereas blatant activation leads to reactance to the stereotype.

25 Two experimental studies demonstrate the differential effects of subtly and blatantly
26 activating a masculine stereotype. In a study examining negotiation dynamics, participants
27 in the subtle condition were told that the most effective negotiators “are rational and
28 assertive, and demonstrate a regard for their own interests throughout the negotiation,
29 rather than being emotional, passive, and overly accommodating” whereas in the blatant
30 condition it was added that “because these personality characteristics tend to vary across
31 gender, male and female students have been shown to differ in their performance on this
32 task” (Kray, Thompson, & Galinsky, 2001). Results indicated that, in competitive nego-
33 tiations, men performed better in the subtle stereotype condition (assimilation), whereas
34 women performed better in the blatant stereotype condition (reactance) Although stereo-
35 type activation research typically examined academic or behavioral outcomes, Gupta,
36 Turban, and Bhawe (2008) extended gender stereotype activation to the study of career
37 aspirations by examining self-employment intentions. More specifically, participants were
38 asked to report their intentions to be self-employed after reading a news article that either
39 subtly or blatantly linked entrepreneurship with stereotypically masculine characteristics.
40 In the subtle condition, the article presented three masculine attributes associated with
41 entrepreneurs (aggressive, risk-taker, and autonomous), and in the blatant condition the
42 article added that these attributes reflect “American masculinity,” elaborated on the char-
43 acteristics, and provided examples of entrepreneurs who supposedly demonstrated these
44 characteristics (Henry Ford and Thomas Watson). Results indicated that men had lower
45 and women had higher intentions when the masculine stereotype was activated blatantly
46 compared with subtly. Together, these studies demonstrate the effects of activating mas-
47 culine stereotypes subtly and blatantly. We extend these studies and investigate opportu-
48 nity evaluation, a perceptual task that requires individuals to “connect the dots” between
49 seemingly ambiguous bits of information (Baron & Ensley, 2006). We expect that men
50 will evaluate a new opportunity more favorably and women less favorably when the

1 masculine stereotype is activated subtly compared with when it is activated blatantly. We
2 hypothesize:

3 **Hypothesis 1:** When entrepreneurship is associated with stereotypically masculine
4 characteristics: (a) men will report higher opportunity evaluation when the association
5 is subtle rather than blatant, whereas (b) women will report higher opportunity
6 evaluation when the association is blatant rather than subtle.

7 8 **Activation of Feminine Stereotype**

9 In recent years, researchers have turned their attention to whether group-based advan-
10 tages induced by subtly presenting stereotypical information can be altered by changing
11 the stereotypical attributes associated with the task. For example, Levy (1996) found that
12 priming common stereotypes about aging (e.g., “senile” and “dementia”) led to memory
13 deficits in elderly patients, whereas associating aging with attributes like “wise” and
14 “experienced” enhanced memory performance. In another experiment, Stone et al. (1999)
15 manipulated race-related stereotypes about golf and found that associating golf with
16 “sports intelligence” led Whites to outperform Blacks, whereas associating it with “ath-
17 letic ability” led Blacks to outperform Whites. These studies indicate that merely chang-
18 ing the stereotype associated with a particular domain can allow the burden imposed by
19 stereotypes to be lifted from one group, and even transferred to another group. It remains
20 to be seen whether associating an achievement-oriented domain like entrepreneurship
21 with appropriate feminine characteristics can influence subsequent evaluation of new
22 business opportunities.

23 Three studies have attempted to associate business-related domains with stereotypi-
24 cally feminine attributes, and have produced mixed results. Specifically, Kray, Galinsky,
25 and Thompson (2002) found that linking effective negotiators with stereotypically femi-
26 nine attributes such as “empathy” and “verbal ability” led women to outperform men on
27 a competitive negotiation task. Bergeron et al. (2006), however, found no effect of pre-
28 senting a senior administrative position as female-typed on men and women’s decision
29 making. Similarly, Gupta et al. (2008) found that connecting entrepreneurship with
30 “caring” and “humble,” which are stereotypically feminine characteristics that character-
31 ize good entrepreneurs (Bird & Brush, 2002), did not influence men and women’s
32 intentions to be self-employed. The mixed findings regarding feminine stereotype activa-
33 tion may occur because characteristics can be successfully associated with a task only
34 when they are consistent with societal norms and values (Steele, 1997). As Czarniawska
35 (2004) noted, for a narrative to be considered acceptable, it must draw on discourses that
36 are perceived as legitimate by the audience. For example, cultural stereotypes about
37 effective negotiators in the United States include “both stereotypically masculine and
38 feminine traits” (Kray et al., p. 390) and thus associating feminine characteristics with
39 negotiation was accepted by participants. However, gender stereotypes about entrepre-
40 neurs tend to be predominantly masculine in the United States. (Ahl, 2006), and thus
41 associating them with feminine attributes may not be acceptable or believable. In this vein,
42 Steele noted that stereotype activation is predicated on consistency between the stereo-
43 typical information presented and societal beliefs; information that is inconsistent with
44 norms and values of a society is unlikely to impact subsequent aspirations or performance.

45 Associating new stereotypical characteristics with a gender-typed task may be one of
46 the most intriguing aspects of SAT. The SAT literature suggests that associating a stereo-
47 typed domain with one set of characteristics rather than another set can alter people’s
48 subsequent actions and behaviors on that task. Such effects occur because attributes and
49 traits associated with a task impose “a particular bounded rationality” on subsequent

1 perceptions and actions in that domain (Morris, Miyasaki, Watters, & Coombs, 2006,
2 p. 222). The stereotypical attributes associated with a task provide a frame of reference
3 for interpreting the requirements and expectations for that task.

4 In western countries, entrepreneurship and business management are seen as “male,
5 and not only male, but lean, hungry, predatory and hostile” (Greer, 1999, p. 299) attributes
6 consistent with an “alpha male” image of entrepreneurs and managers (Gupta & York,
7 2008). Feminine characteristics are considered antithetical to business entrepreneurship in
8 the United States, as in many other western countries (Ahl, 2006). We theorize, however,
9 that in societies where feminine characteristics can be seen as congruent with entrepre-
10 neurship, it should be possible to associate entrepreneurship with relevant feminine
11 attributes.

12 Several factors suggest it may be possible to link entrepreneurship with stereotypi-
13 cally feminine characteristics in India. First, stereotype redefinition is facilitated when
14 there are appropriate role models (Marx & Roman, 2002). According to GEM data
15 (Manimala, 2002), the rate of entrepreneurial activity among Indian women (14%),
16 although lower than Indian men (22%), is higher than women in the United States (8%)
17 as well as women globally (5%). The participation rate in entrepreneurial activity for
18 women ranges from about 0.6% in Japan to 18.5% in Thailand, with India trailing only
19 Thailand and Chile (Reynolds, Bygrave, Autio, Cox, & Hay, 2002). Mitra (2002) attrib-
20 uted the high number of women-owned businesses in India to structural barriers that
21 discouraged women from pursuing salaried jobs, and channeled them into self-
22 employment. A large number of these Indian women entrepreneurs are involved in
23 running small independent businesses such as neighborhood convenience stores where
24 most locals shop for their everyday needs. These women serve as highly visible role
25 models who provide evidence that stereotypical feminine characteristics can be useful for
26 entrepreneurship. This is consistent with the idea when women enter a particular profes-
27 sion in large numbers, it comes to be accepted as an appropriate job for women (England,
28 2000).

29 Second, Indian society has historically placed both masculinity and femininity at the
30 center of religious rituals and practices, which serves “to produce powerful, pervasive, and
31 long-lasting moods and motivations” that accept the masculine and feminine as equally
32 legitimate and beneficent (Christ, 2006, p. 42). Perhaps due in part to these norms and
33 values, stories about successful Indian entrepreneurs tend to emphasize their caring
34 nature, willingness to help others, and responsible behavior “in a way acceptable to
35 society” (Gupta, 1992, p. 68), characteristics consistent with a feminine stereotype.
36 Finally, unlike western cultures where attributes are typically considered fixed and immu-
37 table, the Indian culture generally views attributes as more flexible and adaptable to the
38 situation (Sinha & Kanungo, 1997). When people see attributes as changeable, rather than
39 rooted in “essential” innate characteristics, we theorize they will be more open to asso-
40 ciating male-typed domains (e.g., entrepreneurship) with feminine characteristics also.
41 Sundaram (1996, p. 3) noted that the “acceptance of contradictory ideas is a natural part
42 of the Indian way of life,” suggesting that Indian people are able to readily accept
43 contradictions.

44 Thus, we theorize that the greater number of women entrepreneurs, traditional empha-
45 sis on feminine characteristics as desirable and aspirational, and proclivity to view
46 attributes and characteristics as relatively malleable should make it possible to link
47 entrepreneurship with stereotypically feminine characteristics in India. Based on the
48 belief that Indian participants will accept the feminine attributes of entrepreneurship, we
49 expect that women will evaluate a new opportunity more positively and men less posi-
50 tively when the feminine stereotype is subtle compared with blatant. We hypothesize that:

1 **Hypothesis 2:** When entrepreneurship is associated with stereotypically feminine
2 characteristics: (a) women will report higher entrepreneurial opportunity evaluation
3 when the association is subtle rather than blatant, whereas (b) men will report higher
4 opportunity evaluation when the association is blatant rather than subtle.

5 Note that hypotheses 1 and 2 combine to form a three-way interaction of respondent
6 gender, stereotype content (masculine or feminine), and stereotype activation (subtle or
7 blatant) on opportunity evaluation. Specifically, for both the masculine and feminine
8 stereotypes, we expect a cross-over interaction, albeit with the exact opposite patterns,
9 since the masculine stereotype about entrepreneurship is more positive for men, whereas
10 the feminine stereotype is more positive for women.

11 **Method**

12 **Participants**

13 We collected data from business students at a large public university in western India.
14 We contacted 546 students, of which 429 completed the survey (226 men and 203
15 women). The average age of our sample was 22 years, which is within the age-group in
16 which early-stage entrepreneurial activity is common (Hisrich, Langan-Fox, & Grant,
17 2007). The GEM findings reveal that, in the 18–24 age group, more than 80% of Indians
18 engaged in entrepreneurial activity reported wanting to become entrepreneurs (Manimala,
19 2002). Notably, research suggests that wanting to pursue entrepreneurial activity, rather
20 than being forced into it due to lack of alternatives such as paid employment, is more
21 strongly associated with favorable outcomes such as job creation, business growth, and
22 economic development (Bygrave et al., 2003).

23 We chose business students as our sample for several reasons. First, sampling only
24 business students allowed us to effectively control for “surface-level” differences between
25 men and women, such as education and professional training that have been found to
26 influence outcomes in business settings. Second, SAT researchers have argued that ste-
27 reotype activation influences individuals who can identify with the targeted domain
28 (Smith & White, 2002), and so we sought participants who were trained in business issues.
29 Third, business students are believed to represent a significant share of the pool of
30 entrepreneurially oriented individuals in developing countries (Gupta & Fernandez,
31 2009), and there exists a strong emphasis among policy makers in encouraging business
32 students to be entrepreneurial (Hisrich et al., 2007). For these reasons, we believe such
33 students are an appropriate sample for our study.
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36 **Procedure**

37 We invited potential respondents to participate in a study on business decision
38 making. We randomly assigned men and women to one of six experimental conditions—
39 four stereotype conditions (subtle and blatant masculine activation, and subtle and blatant
40 feminine activation), nullified gender-neutral condition, and control condition. An experi-
41 mental approach is considered particularly appropriate to investigate variation in evalua-
42 tion of new business opportunities between men and women (Nicolau et al., 2009).

43 Following prior research (Smith & White, 2002), our manipulation for stereotype
44 activation was contained in a one-page (fictitious) news article provided to participants in
45 each experimental condition. As our experiment involved six conditions (mentioned
46 earlier), we had a total of six articles with one article per condition. We adapted the articles
47

1 developed and validated by Gupta et al. (2008) in the United States to make them
2 appropriate for the Indian context. This adaptation involved minor changes such as
3 substituting “Indian Institute of Management” and “Professor Inderpreet Chadha” instead
4 of “Harvard University” and “Professor Chris Smith” in the U.S. articles. We used the
5 same attributes that were used in the United States—“aggressive,” “risk taking,” and
6 “autonomous” for masculine conditions, and “caring,” “making relationships,” and
7 “humble” for feminine conditions. Thus, except for “Indianizing” the articles to make
8 them relevant for our sample, we employed the same articles that was used in prior
9 research. The articles used in the present study are available from the first author.

10 In the subtle condition, the article simply described the three (masculine or feminine)
11 characteristics, while in the blatant condition, the stereotype was highlighted with three
12 emphasis points: (1) participants were told that entrepreneurs show characteristics of
13 masculinity (or femininity); (2) elaboration of the three characteristics in relation to
14 entrepreneurship; and (3) presented with successful real-world Indian entrepreneurs
15 (Dhirubhai Ambani and JRD Tata in the masculine condition and Ekta Kapoor and Shehnaz
16 Hussain in the feminine condition). Thus, the subtle and blatant conditions presented the
17 same three characteristics as stereotypical of entrepreneurs, but differed in their emphasis
18 on the stereotype. The masculine and feminine stereotype articles were identical, except for
19 the characteristics and examples. Additionally, in the control condition, participants read a
20 newspaper article stating that entrepreneurial skills can be taught through university
21 education (no stereotype activation). In the gender-neutral condition, participants read an
22 article that associated entrepreneurship with gender-neutral characteristics, namely being
23 “creative,” “well-informed,” “steady,” and “generous” (stereotype nullification).

24 To ensure that participants carefully read the information presented to them, we tested
25 their comprehension of the manipulation article using a multiple-choice question. Spe-
26 cifically, each participant was asked to identify the stereotypical attributes linked to
27 entrepreneurship in the article they had read. Only data from those who answered this
28 question correctly were used for further analyses ($n = 298$, $\sim 70\%$). We then presented
29 participants with a short scenario about a potentially profitable new business opportunity
30 (Appendix A), which was adapted from the case developed by Keh, Foo, and Lim (2002).
31 The scenario made no mention of the industry to avoid potential biasing influence of
32 gender-typical industries (e.g., construction, day care). Finally, participants evaluated the
33 venture opportunity described in the scenario using a multi-item Likert scale (described
34 later).

35 Measures

36 We used a three-item, 5-point scale ($\alpha = .72$) to measure respondents’ evaluation of
37 the new business opportunity described in the scenario (Keh et al., 2002). Specifically,
38 participants indicated the extent to which they (1) would like to pursue the idea further; (2)
39 can take the idea and turn it into real business; and (3) can successfully start a new venture
40 based on the idea. Responses on the three items were averaged to form an overall
41 opportunity evaluation score for each respondent.
42

43 Analyses and Results

44 Table 1 presents means and standard deviations by condition. Mean values refer to the
45 average score on the three-item opportunity evaluation scale. Note that our research
46 design can be conceptualized as either a $2 \times 2 \times 2$ (respondent gender \times stereotype
47
48

1 Table 1

2
3 Means and Standard Deviations by Condition

4

	Masculine stereotype		Feminine stereotype		Control	Nullified
	Subtle	Blatant	Subtle	Blatant		
Men						
Mean	4.03 _{1a}	4.08 _{1b}	3.43 _{1a}	3.83 _{2b}	3.63	4.00
SD	0.11	0.13	0.14	0.13	0.11	0.18
N	29	24	21	24	31	12
Women						
Mean	3.57 _{2b}	3.95 _{1c}	3.88 _{2b}	3.42 _{1c}	3.73	3.77
SD	0.13	0.14	0.12	0.12	0.11	0.13
N	22	21	28	30	32	24

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Note: Mean values refer to the average of the three-item opportunity evaluation construct. Different number subscripts indicate significantly different means within the same column. Different letter subscripts indicate significantly different means between subtle and blatant activation within the same stereotype content condition (masculine–feminine). Values without subscripts are provided simply for information and were not part of actual hypotheses testing. SD, standard deviation.

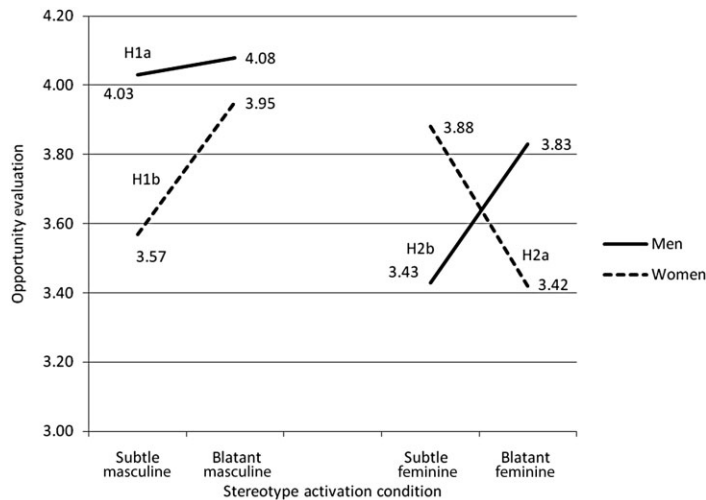
content \times manner of activation, respectively) with two additional conditions: control and nullified (for male and female respondents, thus four cells), or as a 2×6 (respondent gender \times stereotype manipulation conditions). Before examining the hypothesized three-way (eight-cell) interaction, we conducted an omnibus 2×6 analysis of variance (ANOVA). Results indicated a main effect of stereotype manipulation, $F(5, 286) = 2.75$, $p < .05$, $\eta^2 = .05$, and, more important for our hypotheses, a significant gender \times stereotype manipulation interaction effect, $F(5, 286) = 3.71$, $p < .01$, $\eta^2 = .06$. These results indicate that differences in opportunity evaluation between men and women were influenced by experimental condition.

Focusing on the four stereotype activation conditions (subtle masculine, blatant masculine, subtle feminine, and blatant feminine) to test our hypotheses, we conducted an omnibus $2 \times 2 \times 2$ (gender \times implicit–explicit \times masculine–feminine) ANOVA with opportunity evaluation as the dependent variable (see Fig. 1). As expected, we found a significant three-way interaction between gender, stereotype content, and manner of activation, $F(1, 191) = 10.92$, $p < .01$, $\eta^2 = .05$. Such results indicate that the content of stereotypical information (masculine–feminine), the manner in which it is presented (subtle–blatant), and participant gender (men–women) interacted to influence opportunity evaluation.

For the masculine stereotype, we expected men to report higher opportunity evaluation when the stereotype was activated subtly versus blatantly, and women to report higher opportunity evaluation when stereotype was activated blatantly versus subtly. In support of hypothesis 1, for masculine stereotypical information, we found a significant two-way interaction between manner of activation and participant gender, $F(1, 92) = 6.85$, $p < .05$, $\eta^2 = .06$. We examined simple main effects to determine whether the interaction fit the hypothesized pattern. As expected, women reported more opportunity in the blatant versus subtle activation conditions (3.95 and 3.57, respectively; $t(41) = 2.68$, $p < .05$). However, for men, although we expected greater opportunity evaluation in the subtle versus blatant

1 Figure 1

2
3 Effect of stereotype activation on opportunity evaluation



4
5 condition, there were no differences based on activation (4.03 versus 4.08). Thus hypothesis
6 1a was not supported, while hypothesis 1b was, supported.

7 For the feminine stereotype, as articulated in hypothesis 2, we expected women to
8 report higher opportunity evaluation when the stereotype was activated subtly versus
9 blatantly whereas men would have the opposite pattern. The two-way interaction of
10 manner of activation (subtle–blatant) and participant gender (men–women) was significant,
11 $F(1,99) = 10.51, p < .05, \eta^2 = .09$, and we proceeded to test the simple main effects.
12 As hypothesized, women reported greater opportunity evaluation when the feminine
13 stereotype was activated subtly versus blatantly (3.88 versus 3.42; $t(47) = 2.21, p < .05$),
14 providing support for hypothesis 2a. Further, hypothesis 2b also was supported as men
15 reported greater opportunity evaluation when the feminine stereotype was activated bla-
16 tantly versus subtly (3.83 versus 3.43; $t(43) = 2.65, p < .05$).

17 In summary, the results provide relatively strong support for the three-way interaction.
18 We found complete support for our hypothesized effects with the feminine stereotype and
19 partial support for the hypothesized effect with the masculine stereotype.

20
21 **Discussion**

22
23 Much interest in entrepreneurship centers on the social and mental processes that
24 influence individuals' evaluation of new business opportunities. The present study was
25 designed to explore the impact of gender stereotype activation on opportunity evaluation.
26 We posited that gender stereotype activation may be one mechanism that explains differ-
27 ences between men and women in opportunity evaluation. Specifically, we theorized and
28 found that opportunity evaluation is influenced by an interaction between what stereo-
29 typical information is activated (masculine–feminine), how it is activated (subtle–blatant),
30 and who it is presented to (men–women). Men and women's opportunity evaluation
31 depends on the manner in which gender stereotype is activated and the content of the
32 stereotype. As such, our results contribute to the knowledge of processes underlying

1 variations in the evaluation of business opportunities (Eckhardt & Shane, 2003) as well as
2 the activation of gender stereotypes (Wheeler & Petty, 2001).

3 A notable finding of our research is that it is possible to link entrepreneurship with
4 stereotypically feminine attributes in India and influence men and women's subsequent
5 assessment of evaluation of a new business opportunity. Specifically, we found that, as
6 predicted, when entrepreneurship was subtly associated with stereotypically feminine
7 characteristics women reported higher opportunity evaluation than men, in the same way
8 that men reported higher opportunity evaluation when entrepreneurship was subtly asso-
9 ciated with stereotypically masculine characteristics. These results indicate that differ-
10 ences between men and women in opportunity evaluation are, at least partly, situational,
11 contributing to an emerging stream of research examining the mechanisms underlying
12 variations in opportunity evaluation (Nicolau et al., 2009). Our results suggest that it may
13 be premature to accept, as some have asserted (e.g., Arenius & de Clerq, 2005), that men
14 are simply more likely than women to perceive business opportunities more favorably.
15 Rather, our results show that the words used to describe entrepreneurship set the bound-
16 aries of how it is perceived (Bruni, Gherardi, & Poggio, 2004). In the context of the
17 present study, simply making appropriate stereotypical information cognitively accessible
18 creates a situation-specific predicament (Steele, 1997) that altered the pattern of responses
19 between men and women on tasks such as opportunity evaluation.

20 The SAT literature involves a paradox. Although subtle stereotype activation moti-
21 vates assimilation such that individuals think and act in stereotype-consistent ways,
22 blatant stereotype activation evokes contrastive attitude and behavior. Prior research on
23 the counterintuitive effect of altering the manner in which stereotypical information is
24 presented has largely been limited to masculine stereotypes that have a long history of
25 association with business domains. Furthermore, few studies have directly compared
26 responses with subtle and blatant stereotype activation. To provide a strong test of
27 changing the manner of stereotype activation, we presented both masculine and feminine
28 stereotypical information subtly and blatantly. As expected, we found that assimilative and
29 contrastive effects occur for feminine stereotype activation—simply changing the manner
30 in which stereotypically feminine attributes were linked with entrepreneurship signifi-
31 cantly altered opportunity evaluation.

32 The results for the masculine stereotype were somewhat mixed. We found that, as
33 expected, women reported higher opportunity evaluation when the masculine stereotype
34 was blatantly versus subtly presented. For men though, contrary to our expectations,
35 opportunity evaluation remained consistent across subtle and blatant conditions. Erikk-
36 son and Lindholm (2007) argued that men will succumb to blatant positive stereotypes
37 only when they perceive they have an unfair advantage over women. Perhaps, in a
38 relational society like India where responsibility to extended family takes precedence
39 over individualistic aspirations and goals, men do not believe that masculine stereotypes
40 confer additional advantage on them. Research is needed to replicate our findings and
41 to further examine possible boundary conditions for stereotype activation effects on
42 outcomes.

43 To summarize, our research provides evidence that variation between men and women
44 in the evaluation of new business opportunities results from the interactive influence of
45 linking entrepreneurship with masculine or feminine characteristics and presenting this
46 stereotypical information subtly or blatantly. Notably, unlike studies that attribute differ-
47 ences in opportunity evaluation between men and women to relatively stable biological or
48 psychological aspects (Mirchandani, 1999), we used SAT research to place situational
49 aspects front and center. Our research highlights the need to acknowledge and address the
50 insidious effects of associating gender stereotypical information with entrepreneurship.

1 We echo the conceptual insight offered by Ahl (2006, 2007) who emphasized that the
2 language used to describe entrepreneurship influences how it is perceived in society. Bruni
3 et al. (2004, p. 258) caution that when the social construction of entrepreneurship involves
4 “mingling gender themes with American folklore and Western ethnocentrism” as has been
5 the case in media, texts, and classrooms, it leads to discourse that creates differences
6 between men and women in entrepreneurship. Our research indicates that differences in
7 opportunity evaluation between men and women can be alleviated, and possibly elimi-
8 nated, by changing the language associated with entrepreneurship. In terms of practical
9 implications, our research reveals the potential benefits of including stereotypically femi-
10 nine attributes and female role models in entrepreneurship development programs, such as
11 classrooms, books, and case studies.

12 13 **Limitations and Directions for Future Research**

14 We acknowledge certain limitations of our study, which also indicate directions for
15 additional research. We theorized and tested our predictions in one country. Our approach
16 has the advantage of holding extraneous factors constant (e.g., laws related to participation
17 of men and women in the workforce). Furthermore, studies that contextualize predictions
18 within the cultural context of a particular country, as was done in the present study, are
19 able to examine and apply existing theoretical tenets and to develop new insights for
20 further research (Rousseau & Fried, 2001). The present study used the SAT paradigm,
21 ¹⁰ which has previously received empirical support in several western countries (Eriksson &
22 Lindholm, 2007). Our results indicate that the fundamental tenets of SAT are not limited
23 to a particular cultural setting and the implications of our research can be broadly applied
24 to other settings. Yet, following Cook and Campbell (1979) who noted that external
25 validity is best viewed as a characteristic of a stream of research and not a single study, we
26 encourage future research to examine the generalizability of our results to other societies
27 using samples with different cultural orientations.

28 Critics of SAT have observed that researchers often immediately follow the presen-
29 tation of stereotypical information with measurement of the dependent variable (Cullen,
30 Hardison, & Sackett, 2004) as we did in the present study. This approach may be
31 inconsistent with real-world settings where the evaluation of a business opportunity may
32 lag exposure to stereotypical information by several hours, days, or weeks. Cadinu,
33 Maass, Rosabianca, and Kiesner (2005, p. 576) noted that the effect of stereotype acti-
34 vation is likely to amplify over time as stereotype-induced thoughts and actions interact in
35 a “dynamic and mutually reinforcing” cycle. Thus, it is possible that when opportunity
36 evaluation lags stereotype activation by a time considerably longer than in the present
37 study, the effects are stronger than what we found. Research that examines the effects of
38 stereotype activation over time is needed. However, such studies are most useful when one
39 knows the optimal time lag for a given relationship, otherwise, extended-time studies can
40 lead to biased estimates and incorrect findings.

41 Yet, another limitation pertained to the specific scenario we used. We followed Keh
42 et al. (2002) in presenting participants with a scenario that described the entrepreneurial
43 opportunity in a general way, without providing specific details and in-depth information
44 about the business and its context. Prior entrepreneurship research has noted that oppor-
45 tunity evaluation may be influenced by individuals’ tolerance for ambiguity, which Teoh
46 and Foo (1997) defined as the ability to respond confidently to ambiguous situations
47 without seeking more information. It is possible that the strength and direction of the
48 relationships proposed in our study are influenced by tolerance for ambiguity, which
49 provides an interesting area of inquiry for future research.

1 Our study, consistent with prior SAT research (e.g., Smith & White, 2002), used a
2 (fictitious) newspaper article to manipulate gender stereotypical information. Although
3 such a manipulation is a common procedure in SAT research, it is difficult to imagine a
4 modern society where people are exposed to only a single information source. In general,
5 stereotypes are conveyed through multiple media such as newspapers, books, magazines,
6 articles, TV shows, and cinema. It is possible that, in some contexts, the information
7 presented in different media is at odds with each other, which can make the world seem
8 like “a buzzing, blooming confusion” (James, 1890, p. 462). We encourage future research
9 to examine the effect of exposing men and women to multiple sources of gender stereo-
10 typical information about entrepreneurship.

11 Notwithstanding the limitations of our research, our study has several methodological
12 strengths. First, we used an experimental approach, which is suitable for asking the “can
13 it happen” question (Ilgen, 1986). Experimental studies have the merit of high internal
14 validity and help eliminate alternative explanations for possible cause–effect connections.
15 Second, we tested our hypotheses in India, which enabled us to respond to calls for
16 research “in countries that are emerging as important global players and at the same time
17 have sociocultural contexts very different from those of western countries” (Nadkarni &
18 Herrmann, 2010, p. 1067). Studies that pay attention to relevant facts, events, and issues
19 in other societies and link them with observed findings are critical to meaningful theory
20 development in a globalizing world. Third, the participants of this research study fell in
21 the 18–24 age group, which in India has the lowest proportion of people attributing their
22 pursuit of new opportunities to push factors such as lack of alternative employment
23 (Manimala, 2002). Fourth, although the nature of the research participants’ experiences
24 did not exactly mirror those of a real organizational situation, several features of this task
25 and of our participants achieved what Berkowitz and Donnerstein (1982) referred to as
26 “mundane realism.” Lastly, our analysis was based on data obtained only from participants
27 who responded accurately to the question about the content of the manipulation article. To
28 summarize, we have confidence that gender stereotypes help explain variations in oppor-
29 tunity evaluation between men and women as we found in our study, and we encourage
30 additional research in other settings to empirically examine the generalizability of our
31 findings across populations, time periods, and dependent variables.

32 33 **Conclusion**

34
35 Whether it involves starting a retail store, a restaurant, or an Internet site, positive
36 evaluation of a new opportunity is an important part of any entrepreneurial venture. Prior
37 research indicates that the rate of favorably evaluating new business opportunities is, in
38 general, higher among men than women. We utilized a stereotype activation perspective to
39 examine differences between men and women in evaluating new business opportunities.
40 We extended prior research by theorizing and finding that the gender stereotypical char-
41 acteristics associated with entrepreneurship influence how participants perceive new busi-
42 ness opportunities. Specifically, for the feminine stereotype we found that in the subtle
43 condition, both men and women assimilated to the stereotype, whereas they reacted against
44 the stereotype in the blatant condition. For the masculine stereotype women assimilated
45 with the subtle condition and reacted against the blatant condition, although men reported
46 equally high opportunity evaluation in both the subtle and blatant conditions.

47 Taken in sum, our finding that the content of the stereotype and manner in which it is
48 presented influences evaluations of a business opportunity suggests that the situational
49 predicament engendered by making gender stereotypical information salient plays a role

1 in explaining differences between men and women in entrepreneurial settings. Further-
2 more, the empirical support we found in India enhances confidence in generalizability of
3 stereotype activation research to non-western societal contexts. Future research aimed at
4 expanding and testing our hypotheses to other entrepreneurial processes, possibly over
5 time, will enhance the validity of the findings presented here.

7 Appendix A

9 Scenario Describing a New Business Opportunity

10 Jaspreet Ahluwalia is a successful retired executive with over four decades of expe-
11 rience in top management positions of many highly successful companies. Jaspreet now
12 spends time encouraging young people around the world start new businesses. Jaspreet
13 believes that guiding and mentoring young people will help them start their own business.

14 Jaspreet has an idea for a new business and has already asked around to see if it is a
15 good idea. Some associates and other experts who are quite knowledgeable about the
16 business have given very positive feedback on the idea. Jaspreet does not believe in-depth
17 research will help find out any new information about the challenges and problems
18 associated with starting this business, and published data are too general to be useful.
19 However, based on the positive feedback from people, Jaspreet believes that this idea has
20 tremendous potential and this business can bring tremendous success to those who are
21 willing to work for it. Jaspreet is enthusiastic about the business and feels that it is the
22 perfect opportunity for a young person interested in starting a new business.

23 There are a few large businesses in the same industry but they have not targeted the
24 market segment that Jaspreet is aiming for. This segment of the population certainly
25 needs this product. Jaspreet is unsure whether the market is still growing or matured. If
26 the market has reached maturity, it is likely for a new business to be squeezed out of the
27 market. If the market is still growing, the new business will be able to survive the entry of
28 large companies into this market segment. Jaspreet believes that that there are only a few
29 small businesses that are still surviving in the industry.

30 Jaspreet estimates it will take at least Rs. 4,000,000 to finance the new business. As
31 Jaspreet has Rs.1,000,000 in savings to help start the new business, the rest of the
32 investment funds will have to be borrowed from the bank or partners. The local govern-
33 ment and some regional banks have already agreed to provide some support for the
34 venture, provided the person starting it has the right attributes and qualities to take this
35 responsibility.

36 Note (information not included in the experiment): At time of study, 1 INR (Rs.) = .02
37 USD

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- 19 Vishal K. Gupta is a •• at School of Management, State University of New York.
20
21 Daniel B. Turban is a •• at Department of Management, University of Missouri.
22
23 ¹⁶ Ashish Pareek is a •• at Department of Management Studies, Maharshi Dayanand Sarasvathy University.
24

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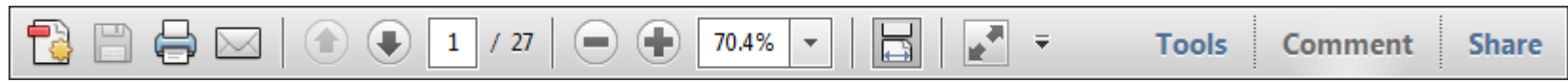
9	AUTHOR: Eriksson and Lindholm (2007) has been changed to Eriksson and Lindholm (2007), so that this citation matches Reference list, please confirm that this is correct.	
10	AUTHOR: "The present . . . countries." This sentence has been reworded for clarity; please check and confirm that the changes made are ok.	
11	AUTHOR: Christ (2006) has been styled as a chapter in a book; please check and confirm that this is correct.	
12	AUTHOR: Gilad, Levine, 1986 has not been cited in the text. Please indicate where it should be cited; or delete from the Reference List.	
13	AUTHOR: Page range for Kray et al. (2004) has been inserted as per Internet search; please check and confirm that this is correct.	
14	AUTHOR: Please supply page range for Smith and Anderson (2004).	
15	AUTHOR: Please supply the volume number for Sundaram (1996).	
16	AUTHOR: Please provide the job titles for authors and confirm that the addresses are correct.	

USING e-ANNOTATION TOOLS FOR ELECTRONIC PROOF CORRECTION

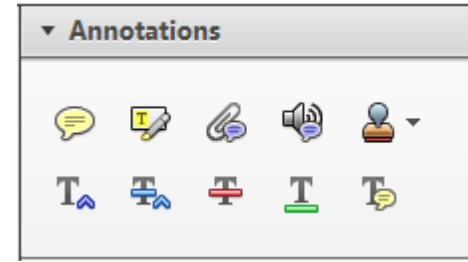
Required software to e-Annotate PDFs: Adobe Acrobat Professional or Adobe Reader (version 8.0 or above). (Note that this document uses screenshots from Adobe Reader X)

The latest version of Acrobat Reader can be downloaded for free at: <http://get.adobe.com/reader/>

Once you have Acrobat Reader open on your computer, click on the [Comment](#) tab at the right of the toolbar:



This will open up a panel down the right side of the document. The majority of tools you will use for annotating your proof will be in the [Annotations](#) section, pictured opposite. We've picked out some of these tools below:



1. Replace (Ins) Tool – for replacing text.

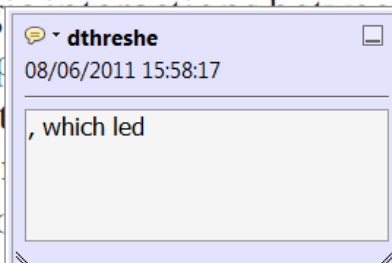


Strikes a line through text and opens up a text box where replacement text can be entered.

How to use it

- Highlight a word or sentence.
- Click on the [Replace \(Ins\)](#) icon in the Annotations section.
- Type the replacement text into the blue box that appears.

standard framework for the analysis of microeconomics. Nevertheless, it also led to the emergence of strategic behavior in the number of competitors in the industry. This is that the structure of the industry, which led to the emergence of imperfect competition. The main components of the industry, which are exogenous to the industry, are important works on entry by Shirasaka (1987) and henceforth. We open the 'black b



2. Strikethrough (Del) Tool – for deleting text.



Strikes a red line through text that is to be deleted.

How to use it

- Highlight a word or sentence.
- Click on the [Strikethrough \(Del\)](#) icon in the Annotations section.

there is no room for extra profits and the number of competitors are zero and the number of competitors (net) values are not determined by the number of firms. Blanchard and Kiyotaki (1987), in their paper on perfect competition in general equilibrium, show that the structure of aggregate demand and supply in the classical framework assuming monopoly is not affected by an exogenous number of firms.

3. Add note to text Tool – for highlighting a section to be changed to bold or italic.



Highlights text in yellow and opens up a text box where comments can be entered.

How to use it

- Highlight the relevant section of text.
- Click on the [Add note to text](#) icon in the Annotations section.
- Type instruction on what should be changed regarding the text into the yellow box that appears.

dynamic responses of mark-ups to cost changes. The evidence is consistent with the VAR evidence.

with well-labeled demand curves. The number of competitors and the markup are important works on entry by Shirasaka (1987) and henceforth. We open the 'black b



4. Add sticky note Tool – for making notes at specific points in the text.

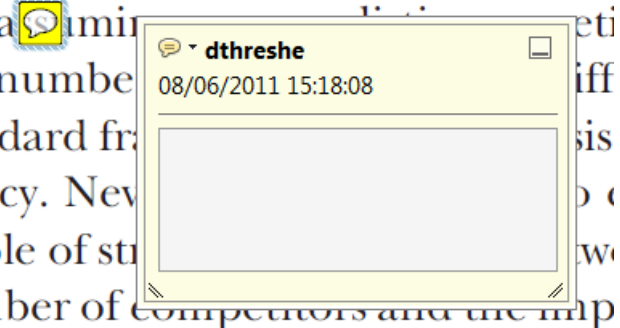


Marks a point in the proof where a comment needs to be highlighted.

How to use it

- Click on the [Add sticky note](#) icon in the Annotations section.
- Click at the point in the proof where the comment should be inserted.
- Type the comment into the yellow box that appears.

and supply shocks. Most of the time, the number of competitors and the markup are not determined by the number of firms. Blanchard and Kiyotaki (1987), in their paper on perfect competition in general equilibrium, show that the structure of the sector is not affected by an exogenous number of firms.



USING e-ANNOTATION TOOLS FOR ELECTRONIC PROOF CORRECTION

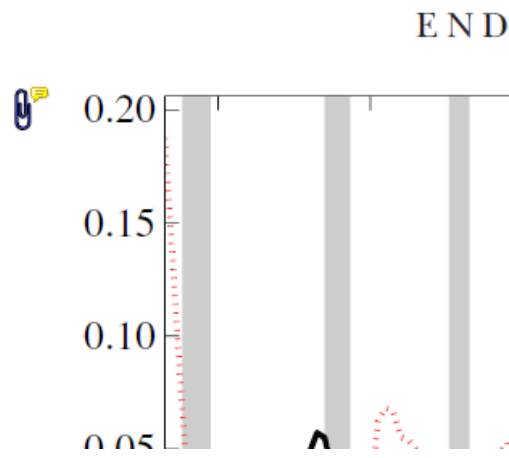
5. Attach File Tool – for inserting large amounts of text or replacement figures.



Inserts an icon linking to the attached file in the appropriate place in the text.

How to use it

- Click on the [Attach File](#) icon in the Annotations section.
- Click on the proof to where you'd like the attached file to be linked.
- Select the file to be attached from your computer or network.
- Select the colour and type of icon that will appear in the proof. Click OK.



6. Add stamp Tool – for approving a proof if no corrections are required.

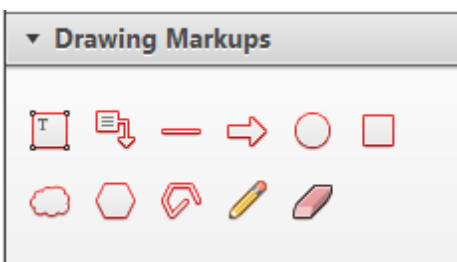


Inserts a selected stamp onto an appropriate place in the proof.

How to use it

- Click on the [Add stamp](#) icon in the Annotations section.
- Select the stamp you want to use. (The [Approved](#) stamp is usually available directly in the menu that appears).
- Click on the proof where you'd like the stamp to appear. (Where a proof is to be approved as it is, this would normally be on the first page).

of the business cycle, starting with the
 on perfect competition, constant ret
 production. In this environment goods
 extra profits and the market for marke
 he market for goods is determined by the model. The New-Key
 otaki (1987), has introduced produc
 general equilibrium models with nomin
 and real business cycles. Most of this literat

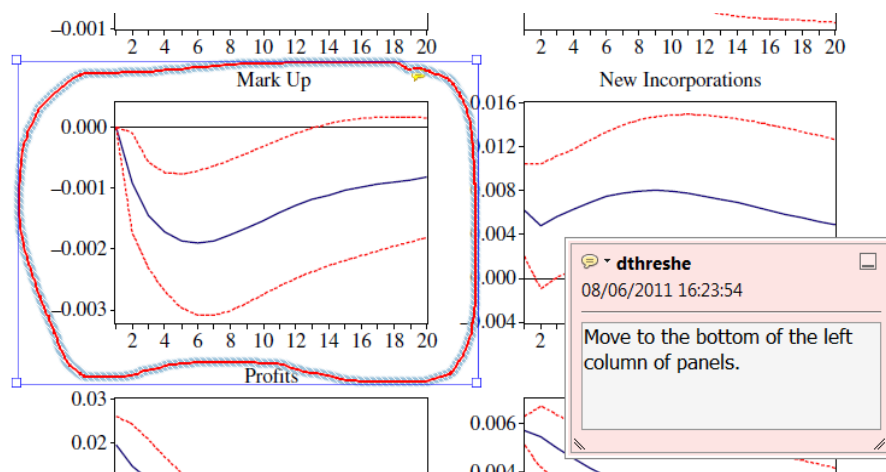


7. Drawing Markups Tools – for drawing shapes, lines and freeform annotations on proofs and commenting on these marks.

Allows shapes, lines and freeform annotations to be drawn on proofs and for comment to be made on these marks..

How to use it

- Click on one of the shapes in the [Drawing Markups](#) section.
- Click on the proof at the relevant point and draw the selected shape with the cursor.
- To add a comment to the drawn shape, move the cursor over the shape until an arrowhead appears.
- Double click on the shape and type any text in the red box that appears.



For further information on how to annotate proofs, click on the [Help](#) menu to reveal a list of further options:

