B Proofs

B.1 Proof of Lemma 1

Claim A1.1 When $\alpha_1, \alpha_2 \leq \alpha^*$, there exists a unique, interior equilibrium $(r_1^*, s_1^*, s_2^*) \in (0,1)^3$ of this game.

Proof of Claim A1.1 When $\alpha_1, \alpha_2 \leq \alpha^*$, the problem of $S_i, i \in \{1,2\}$ is given by

$$\max_{s_i \geq 0} \{ d\alpha_i p(s_i, r_i) - c(s_i) \}.$$

For a given (conjectured) $\widehat{r_1}$, S_i's first-order condition is given by

$$d\alpha_i p_1(s_i, \hat{r}_i\}) = c'(s_i) \tag{2}$$

Because $c'(s_i) \to 0$ as $s_i \to 0$, and because $c'(s_i) \to \infty$ as $s_i \to 1$, the range of the right-hand side (RHS) is $(0, \infty)$. As $d > 0$ and $p_1(s_i, \hat{r}_i) > 0$ for all $\hat{r}_i \in [0,1]$, the left-hand side (LHS) is strictly positive for $\alpha_i \in (0,1]$. Since $p(s_i, \hat{r}_i)$ is concave in s_i and $c(s_i)$ is convex, LHS is decreasing in s_i and RHS is increasing in s_i. These observations imply that there exists a unique solution $s_i^*(\hat{r}_i) \in (0,1)$ to this equation. Clearly, the best reply function $s_i^*(\hat{r}_i)$ is monotonically increasing if $p_{12} > 0$, and monotonically decreasing if $p_{12} < 0$. Because the function $p(\cdot)$ is concave and $c(\cdot)$ is convex, this solution is the solution to the maximization problem (the second-order condition holds).

The problem of the *DM* is given by

$$\max_{\{r_1, r_2\} \in [0,1]^2} \bar{x}\left(\alpha_1 p(s_1, r_1) + \alpha_2 p(s_2, r_2)\right) s.t. r_1 + r_2 = 1$$

$$\Leftrightarrow \max_{r_1 \in [0,1]} \bar{x}\left(\alpha_1 p(s_1, r_1) + \alpha_2 p(s_2, 1 - r_1)\right)$$

For given (conjectured) $\widehat{s_1}$ and $\widehat{s_2}$, her first-order conditions (FOCs) are given by:

$$\bar{x}\left(\alpha_1 p_2(\hat{s}_1, r_1) - \alpha_2 p_2(\hat{s}_2, 1 - r_1)\right) = 0 \tag{3}$$

where $\bar{x} > 0$.

We substitute the experts' best reply functions from (2) into (3) and obtain

$$\alpha_1 p_2(s_1^*(r_1), r_1) = \alpha_2 p_2(s_2^*(1 - r_1), 1 - r_1). \tag{4}$$

An equilibrium which is interior must satisfy (4). We will now discuss the existence and uniqueness of equilibria in this communication game.

First, we show that $p_2(s_1^*(r_1), r_1)$ is monotonically decreasing in r_1, i.e., that its derivative is negative. Differentiating $p_2(s_1^*(r_1), r_1)$ with respect to r_1, yields

$$p_{21}(s_1^*(r_1), r_1) s_1^{*\prime}(r_1) + p_{22}(s_1^*(r_1), r_1). \tag{5}$$

Differentiating sender 1's equilibrium condition, (2), with respect to r_1 yields

$$d\alpha_i \left(p_{11}\big(s_1^*(r_1)\big) s_1^{*\prime}(r_1) + p_{12}\big(s_1^*(r_1)\big)\right) = c''\big(s_1^*(r_1)\big) s_1^{*\prime}(r_1),$$

$$s_1^{*\prime}(r_1) = \frac{d\alpha_i p_{12}\big(s_1^*(r_1)\big)}{c''\big(s_1^*(r_1)\big) - d\alpha_i p_{11}\big(s_1^*(r_1)\big)} \tag{6}$$

Inserting (6) into (5) yields that the derivative of $p_2(s_1^*(r_1), r_1)$ is negative if and only if

$$\frac{d\alpha_i p_{12}\big(s_1^*(r_1)\big) p_{12}\big(s_1^*(r_1)\big)}{c''\big(s_1^*(r_1)\big) - d\alpha_i p_{11}\big(s_1^*(r_1)\big)} + p_{22}(s_1^*(r_1), r_1) < 0.$$

Using the fact that $\left(c''\big(s_1^*(r_1)\big) - d\alpha_i p_{11}\big(s_1^*(r_1)\big)\right)$ is strictly positive, we rearrange the formula to obtain

$$d\alpha_i p_{12}\big(s_1^*(r_1)\big) p_{12}\big(s_1^*(r_1)\big) < -p_{22}(s_1^*(r_1), r_1)\left(c''\big(s_1^*(r_1)\big) - d\alpha_i p_{11}\big(s_1^*(r_1)\big)\right)$$

$$p_{12}\big(s_1^*(r_1)\big) p_{12}\big(s_1^*(r_1)\big) < p_{11}(s_1^*(r_1), r_1) p_{22}(s_1^*(r_1), r_1) - \frac{1}{d\alpha_i} p_{22}(s_1^*(r_1), r_1) c''\big(s_1^*(r_1)\big).$$

Because $-\frac{1}{d\alpha_i} p_{22}(s_1^*(r_1), r_1) c''(s_1^*(r_1)) > 0$, this condition is implied by global con- cavity. This establishes that $p_2(s_1^*(r_1), r_1)$ is monotonically decreasing in r_1.

Second, we show that there exists a unique interior equilibrium. Defining $g(r_1) \equiv p_2(s_1^*(r_1), r_1)$ and $h(r_1) \equiv p_2(s_2^*(1 - r_1), 1 - r_1)$ we rewrite (4) as

$$\alpha_1 g(r_1) = \alpha_2 h(1 - r_1). \quad (7)$$

Step 1 of this proof established that $g(r_1)$ is decreasing. An analogous argument establishes that $h(r_2) = h(1 - r_1)$ is decreasing in $r_2 = 1 - r_1$ (increasing in r_1).

Further, because $g(r_1) = p_2(s_1^*(r_1), r_1)$, the Inada condition

$$\text{for all } s_i \in [0,1]: p_2(s_i, r_i) > 0 \text{ for all } r_i \in [0,1) \text{ and } p_2(s_i, r_i) \to 0 \text{ as } r_i \to 1 \quad (8)$$

yields

$$g(r_1) > 0 \text{ for all } r_1 \in [0,1) \text{ and } g(r_1) \to 0 \text{ as } r_1 \to 1 \quad (9)$$

$$h(r_2) > 0 \text{ for all } r_2 \in [0,1) \text{ and } h(r_2) \to 0 \text{ as } r_2 \to 1,$$

where the latter can be re-written as

$$h'(1 - r_1) > 0 \text{ for all } r_1 \in (0,1] \text{ and } h'(1 - r_1) \to 0 \text{ as } r_1 \to 0, \quad (10)$$

By (9), when r_1 tends to one, LHS of (7) tends to zero and RHS is strictly greater than zero. By (10), when r_1 tends to zero, RHS tends to zero and LHS is strictly greater than zero. Thus, there exists an interior equilibrium $r_1^* \in (0,1)$, as these must cross. Moreover, they cross at most once, so the solution r_1^* is unique. By arguments analogous to those given above, the second-order condition is satisfied.

From the above two steps, we conclude that the unique interior equilibrium is given by $(r_1^*, s_1^*, s_2^*) \in (0,1)^3$, where $r_1^* \in (0,1)$ is the solution derived above, $s_1^* = s_1^*(r_1^*)$, and $s_2^* = s_2^*(1 - r_1^*)$.

Third, we show that there exists no equilibrium in which the DM devotes all her attention to only one of the experts. Suppose that there exists some equilibrium in which $r_i^* = 0$ for some S_i, w.l.o.g. for S_1. However, (8), implies that, for any s_1, $\frac{\partial p(s_1, r_1)}{\partial r_1} \to 0$ as $r_1 \to 1$ and $\frac{\partial p(s_2, r_2)}{\partial r_2} > 0$ as $r_1 \to 1$. Thus, $r_i^* = 0$ cannot be optimal for the DM. Note that this is the case even if $s_1^* = 1$.

Claim A1.2 When $\alpha_2 \leq \alpha^* < \alpha_1$, there exists a unique equilibrium

$(r_2^*, s_2^*, 0)$.

Proof of Claim A1.2 When $\alpha_1 > \alpha^*$ and $\alpha_2 \leq \alpha^*$, S_1's problem is given by

$$\max_{s_1 \geq 0} \{d - p(s_1, r_1)(1 - \alpha_1)d - c(s_1)\}.$$

Because the first-order derivative w.r.t s_1 is negative, $s_1^* = 0$.

The problem of S_2 is identical to the experts' problem in the case when $\alpha_1, \alpha_2 \leq \alpha^*$ as above. Thus, S_2's (unique) best reply function $s_2^*(\widehat{r_2}))$ is monotonically increasing if $p_{12} > 0$ and monotonically decreasing if $p_{12} < 0$.

The problem of the DM is given by

$$\max_{r_1 \in [0,1]} \left\{\alpha_1 \bar{x} + (1 - \alpha_1)\underline{x} - p(s_1, r_1)(1 - \alpha_1)\underline{x} + \bar{x}\alpha_2 p(s_2, 1 - r_1)\right\}.$$

For given (conjectured) $\widehat{s_1}$ and $\widehat{s_2}$, her first-order conditions (FOCs) are given by

$$\Leftrightarrow -\underline{x}(1 - \alpha_1)p_2(\widehat{s_1}, r_1) = \bar{x}\alpha_2 p_2(\widehat{s_2}, 1 - r_1).$$

We substitute in the experts' best reply functions and obtain

$$-\underline{x}(1 - \alpha_1)p_2(0, r_1) = \bar{x}\alpha_2 p_2(s_2^*(1 - r_1), 1 - r_1). \quad (11)$$

Because $-\underline{x}(1 - \alpha_1) > 0$ and $p_2(0, r_1)$ is decreasing in r_1, LHS of (11) is decreasing in r_1. Replicating the steps in the proof of case 1 above establishes that RHS is increasing in r_1. As the Inada conditions stated in the proof of case 1 are defined for all $s_1 \in [0,1]$, and hence for $s_1 = 0$, an analogous argument yields that there exists a unique solution $r_1^* \in (0,1)$ to (11). Thus, there exists a unique interior equilibrium $(r_2^*, s_2^*, s_1^*) \in (0,1)^2 \cup \{0\}$ of this game. Moreover, replicating the steps in the proof of case 1 establishes that there exists no equilibrium in which $r_i^* = 0$ for some i.

We note that in this equilibrium, the DM engages in (one-sided) information acquisition relating to A_1, i.e., she devotes some attention to this project even though S_1 makes no communication effort. In contrast, the DM and S_2 engage in two-sided communication.

Claim A1.3 When $\alpha_1, \alpha_2 > \alpha^*$ for, there exists a unique equilibrium $(r_1^*, 0,0) \in (0,1) \cup \{0\} \cup \{0\}$ of this game.

Proof of Claim A1.3 Both experts' problems are given by the problem of S_1 in the proof of Claim A1.2. Hence, $s_1^* = s_2^* = 0$. The problem of the DM is given by

$$\max_{r_1 \in [0,1]} \{\alpha_1 \bar{x} + (1-\alpha_1)\underline{x} - p(s_1, r_1)(1-\alpha_1)\underline{x} + \alpha_2 \bar{x} + (1-\alpha_2)\underline{x} - p(s_2, 1-r_1)(1-\alpha_2)\underline{x}\}.$$

For given (conjectured) $\widehat{s_1}$ and $\widehat{s_2}$, her first-order conditions (FOCs) are given by

$$\Leftrightarrow -\underline{x}(1-\alpha_1)p_2(\widehat{s_1}, r_1) = -\underline{x}(1-\alpha_2)p_2(\widehat{s_2}, 1-r_1).$$

We substitute in the experts' best reply functions and obtain

$$(1-\alpha_1)p_2(0, r_1) = (1-\alpha_2)p_2(0, 1-r_1). \tag{12}$$

An argument that is analogous to those presented in the proofs of Claim A1.1 and Claim A1.2 yields that there exists a unique solution $r_1^* \in (0,1)$ to (12).

B.2 Proof of Proposition 1

Claim A2.1 Fix the attractiveness of expert 2's action, α_2. The DM's attention devoted to Expert 1, $r_1^*(\alpha_1)$, is non-monotonic in α_1.

Proof of Claim A2.1 When $\alpha_1 \leq \alpha^*$, an increase in α_1 affects the DM (and Expert 1) in two ways. First, it becomes more likely that the DM benefits from A_1. This direct effect makes communication more attractive, for both the DM and Expert 1. Second, the increase in α_1 has an indirect effect on the DM through its effect on Expert 1, and vice versa. Due to complementarity, an increase in one team member's effort raises the marginal productivity of the counterpart's effort. The direct and indirect effects thus reinforce each other, so both $r_1^*(\alpha_1)$ and $s_1^*(\alpha_1)$ are increasing in α_1.

When $\alpha_1 > \alpha^*$, as α_1 increases, the DM becomes more convinced that $\tilde{x}_1 = \bar{x}$, so the marginal value of acquiring information decreases. Hence, $r_1^*(\alpha_1)$ is decreasing in α_1. From Lemma 1, we know that $s_1^*(\alpha_1) = 0$ in this region.

At α^*, the DM's default choice changes from not taking A_1 to taking A_1, so the expert's communication effort drops to zero. Due to complementarity, this lowers the marginal benefit of the DM's effort, so her attention drops discontinuously.

Claim A2.2 Fix the attractiveness of expert 2's action, α_2. The expected utility of Sender 1 in equilibrium increases continuously with α_1 for $\alpha_1 \in (0, \alpha^*)$, increases discontinuously at α^*, and increases continuously for $\alpha_1 \in (\alpha^*, 1)$.

Proof of Claim A2.2 For any $\alpha_1 \in (0,1)$, an increase in α_1 has a positive direct effect on the utility of Expert 1: for given effort levels on the part of Expert 1 and the DM, an increase in α raises the probability that a trade will occur. In addition to this direct effect, an increase in α_1 affects Expert 1 because the optimal efforts change. I show that this second effect reinforces the direct effect.

We start from $\alpha_1 = \alpha_L < \alpha^*$, and the associated equilibrium $(r_1^*(\alpha_L), s_1^*(\alpha_L), s_2^*(\alpha_L)) \in (0,1)^3$ (for a given α_2). I compare Expert 1's expected utility in this equilibrium to that in an equilibrium where $\alpha_1 = \alpha_H = \alpha_L + \varepsilon$, $\alpha_H < \alpha^*$. The equilibrium associated with α_H, $(r_1^*(\alpha_H), s_1^*(\alpha_H), s_2^*(\alpha_H)) \in (0,1)^3$, satisfies $r_1^*(\alpha_H) > r_1^*(\alpha_L)$ and $s_1^*(\alpha_H) > s_1^*(\alpha_L)$. When $\alpha_1 \leq \alpha^*$, for a given level of effort on the part of Expert 1, his expected utility is increasing with the attention that he gets from the DM. Thus, even if Expert 1's effort were held fixed at $s_1^*(\alpha_L)$ when $\alpha_1 = \alpha_H$, Expert 1 would be strictly better off getting attention $r_1^*(\alpha_H)$ from the receiver than getting attention $r_1^*(\alpha_L) < r_1^*(\alpha_H)$. Clearly, then, Expert 1 is strictly better off in the equilibrium associated with α_H – where the DM devotes attention $r_1^*(\alpha_H)$ to him and he plays his best reply, $s_1^*(\alpha_H)$ – than in the equilibrium associated with α_L. Hence, the expected utility of Expert 1 in equilibrium increases with α_1 for $\alpha_1 \in (0, \alpha^*)$. Because all best reply functions and utility functions are continuous, the expected utility increases continuously.

When $\alpha_1 > \alpha^*$, his expected utility is decreasing with the attention that he gets from the DM. Sender 1's effort is fixed at zero when $\alpha_1 > \alpha^*$; and the DM's attention $r_1^*(\alpha_1)$ is decreasing with α_1. Thus, as α_1 increases, Expert 1's expected utility increases because he gets less (undesirable) attention from the receiver. Because all best reply functions and utility functions are continuous, the expected utility decreases continuously.

At α^*, Expert 1's effort cost drops discontinuously (to zero); moreover, the attention he receives drops discontinuously as the DM's decision rule changes from an opt-in to an opt-out rule. Both of these changes raise Expert 1's expected utility discontinuously.

Claim A2.3 When Expert 2 wants the DM's attention ($\alpha_2 \leq \alpha^*$), Expert 2's expected utility is a strictly decreasing function of the attention given to the other expert, $r_1^*(\alpha_1)$.

Proof of Claim A2.3 This follows immediately from the facts that (i) $U_{S_2}(\alpha_1)$

is increasing in $r_2^*(\alpha_1)$ for $\alpha_2 \leq \alpha^*$, and (ii) $r_2^*(\alpha_1) = 1 - r_1^*(\alpha_1)$. Here, (i) follows from Claims 1 and 2, and (ii) is the DM's budget constraint.

Claim A2.4 When Expert 2 does not want the DM's attention ($\alpha_2 > \alpha^*$), Expert 2's expected utility is a strictly increasing function of the attention given to the other expert, $r_1^*(\alpha_1)$.

Proof of Claim A2.4 This follows immediately from the facts that (i) $U_{S_2}(\alpha_1)$ is decreasing in $r_2^*(\alpha_1)$ for $\alpha_2 > \alpha^*$, and (ii) $r_2^*(\alpha_1) = 1 - r_1^*(\alpha_1)$. Here, (i) follows from Claims 1 and 2, and (ii) is the DM's budget constraint.

B.3 Proof of Corollary 1

This follows from Claims 1, 3, and 4 of the proof of Proposition 1.

B.4 Proof of Proposition 2

I first establish a preliminary result:

Lemma (Symmetric information outcome)**.** *Assume that the DM faces a cognitive constraint such that there exists a lower bound on the amount of (non-zero) attention that she can give to any one sender;* $r_i \in \{0\} \cup [\underline{r}, 1]$ *for all* i*. Denote by* $t(\underline{r})$ *the highest number of senders that the DM can split her attention between if she splits her attention equally among them, given the cognitive constraint* $\underline{r}$*. Assume that there are* $N_{\overline{\alpha}}$ *high-quality types (*$\alpha = \overline{\alpha}$*) and* $N_{\underline{\alpha}}$ *low-quality types (*$\alpha = \underline{\alpha}$*), with* $t(\underline{r}) < N_{\overline{\alpha}} \ll N_{\underline{\alpha}}$ *and* $\alpha < \overline{\alpha} < \alpha^*$*. Under symmetric information, there is an (essentially unique) equilibrium in which the DM communicates with exactly* $t(\underline{r})$ *high-quality types.*

I establish this Lemma in three steps.

Claim A4.1 Assume that there are $N_{\overline{\alpha}} \geq 2$ identical experts with $\alpha = \overline{\alpha} < \alpha^*$. Then, there exists a unique equilibrium of this game, in which $r_i^* = \frac{1}{N_{\overline{\alpha}}}$.

Proof of Claim A4.1 The problem of S_i, $i \in \{1,2,\dots,N_{\overline{\alpha}}\}$ is characterized in the proof of Lemma 1, and S_i's unique best reply function is given by $s_i^*(\hat{r}_i) \in (0,1)$. By symmetry, $s_1^*(\cdot) = \cdots = s_{N_{\overline{\alpha}}}^*(\cdot) \equiv s^*(\cdot)$. The problem of the DM is given by

$$\max_{\{r_1,r_2,\dots,r_{N-1}\} \in [0,1]^{(N_{\overline{\alpha}}-1)}} \left\{ \overline{x}\alpha \left(p(s_1,r_1) + \ldots + p\left(s_N, 1 - \sum_{i=1}^{i=N_{\overline{\alpha}}-1} r_i \right) \right) \right\}$$

For given (conjectured) $\widehat{s_1}, \dots, \hat{s}_{N_{\bar{\alpha}}}$, her first-order conditions yield

$$\frac{\partial p(\widehat{s_1}, r_1)}{\partial r_1} = \cdots = \frac{\partial p(\hat{s}_{N_{\bar{\alpha}}-1}, r_{N_{\bar{\alpha}}-1})}{\partial r_{N_{\bar{\alpha}}-1}} = \frac{\partial p(\hat{s}_{N_{\bar{\alpha}}}, 1 - \sum_{i=1}^{i=N_{\bar{\alpha}}-1} r_i)}{\partial(1 - \sum_{i=1}^{i=N_{\bar{\alpha}}-1} r_i)}.$$

Substituting the experts' best reply functions into this condition yields

$$\frac{\partial p(s^*(r_1), r_1)}{\partial r_1} = \cdots = \frac{\partial p(s^*(1 - \sum_{i=1}^{i=N_{\bar{\alpha}}-1} r_i), 1 - \sum_{i=1}^{i=N_{\bar{\alpha}}-1} r_i)}{\partial(1 - \sum_{i=1}^{i=N_{\bar{\alpha}}-1} r_i)}. \tag{13}$$

Clearly, $r_1^* = r_2^* = r_3^* = \cdots = r_{N_{\bar{\alpha}}}^* \equiv r^*$satisfies (13). Because the DM exhausts her attention constraint in any equilibrium, there exists a unique symmetric equilibrium of this game, given by $(r^*, \boldsymbol{s}^*) = \left(\frac{1}{N_{\bar{\alpha}}}, \boldsymbol{s}^*\left(\frac{1}{N_{\bar{\alpha}}}\right)\right)$, where $\boldsymbol{s}^*\left(\frac{1}{N_{\bar{\alpha}}}\right)$ is a vector $(s_1^*, \dots, s_{N_{\bar{\alpha}}}^*)$ such that $s_i^* = s^*\left(\frac{1}{N_{\bar{\alpha}}}\right)$ for all i.

There exists no asymmetric interior equilibrium (where $r_i^* > 0$ for all i and $r_i^* \neq r_j^*$ for some i, j such that $i \neq j$). To see this, define $g(r_i) \equiv p_2(s^*(r_i), r_i)$. By the proof of Lemma 1, $g(r_i)$ is strictly increasing in r_i. Hence, if $r_i^* \neq r_j^*$ for some i, j such that $i \neq j$, (13) must be violated.

There exists no equilibrium such that $r_i^* = 0$ for some i. This follows directly from (i) for all $s_i \in [0,1]$: $\frac{\partial p(s_i, r_i)}{\partial r_i} > 0$ for all $r_i \in (0,1)$, (ii) $\frac{\partial p(s_i, r_i)}{\partial r_i} \to 0$ as $r_i \to 1$, and (iii) $\frac{\partial p(s_i, r_i)}{\partial r_i} \to$ as $r_i \to 0$.

Thus, the symmetric equilibrium is the unique equilibrium of this game.

Claim A4.2 Assume that the DM faces a cognitive constraint such that there exists a lower bound on the amount of (non-zero) attention that she can give to any one sender; $r_i \in \{0\} \cup [\underline{r}, 1]$ for all i. Then, there exists a unique equilibrium of this game, in which $r_i^* = \frac{1}{t(\underline{r})}$, where $t(\underline{r})$ is the highest number of senders that the DM can split her attention between, given the cognitive constraint $\underline{r}$.

Proof of Claim A4.2 In the unconstrained optimum derived in the proof of Claim A4.1, as $N_{\bar{\alpha}}$ increases, $r^* = \frac{1}{N_{\bar{\alpha}}} \equiv r^*(N_{\bar{\alpha}})$ decreases monotonically. Thus, there exists some integer $t(\underline{r})$such that $r^*\left(t(\underline{r})\right) > \underline{r} > r^*(t(\underline{r}) +$

1). By the proof of Claim A4.1, the DM strictly prefers to communicate with $t(\underline{r})$ senders over communicating with strictly fewer senders. Because the DM exhausts her attention constraint in any optimum, there exists a unique symmetric equilibrium of this game, given by $(r^*, \mathbf{s}^*) = \left(\frac{1}{t}, \mathbf{s}^*\left(\frac{1}{t}\right)\right)$, where $\mathbf{s}^*\left(\frac{1}{t}\right)$ is a vector $(s_1^*, \ldots, s_t^*)$ such that $s_i^* = s^*\left(\frac{1}{t}\right)$ for all i. This implies that the DM fares worse in an equilibrium where less than t high type experts enter than in an equilibrium where t (or more) high-quality types enter.

Claim A4.3 Assume that the DM faces a cognitive constraint $\underline{r}$ and that there are $N_{\overline{\alpha}}$ high-quality types ($\alpha = \overline{\alpha}$) and $N_{\underline{\alpha}}$ low-quality types $(\alpha = \underline{\alpha})$, with $t(\underline{r}) < N_{\overline{\alpha}} \ll N_{\underline{\alpha}}$. Under symmetric information, the DM communicates with $t(\underline{r})$ high-quality types.

Proof of Claim A4.3 Because $\overline{\alpha} > \underline{\alpha}$, and because the DM's expected utility from communication with an expert is increasing with the expert's type (α), the DM's expected utility from devoting attention $r = 1/t(\underline{r})$ to a high-quality type is higher than her expected utility from devoting the same amount of attention to a low-quality type. Because $t(\underline{r}) < N_{\overline{\alpha}}$, the DM only communicates with high types. By the proof of Claim A4.2, the DM communicates with exactly $t(\underline{r})$ high-quality types.

Having established the Lemma, the proof now proceeds in four steps.

Claim A4.4 When $q_S \in \left(\underline{q_S}, \overline{q_S}\right)$, there exists a fully revealing equilibrium where only high-quality experts approach the DM. She obtains the same expected decision payoff as under perfect information.

Proof of Claim A4.4 We derive conditions under which equilibria with cue communication exist. We postulate an equilibrium such that P high-quality types send cues to the DM, where $t \leq P \leq N_{\overline{\alpha}}$, zero low-quality types send a cue to the DM, and the DM devotes $r_t^* = 1/t$ to t experts chosen randomly among the P high-quality types who send a cue, where $t \equiv t(\overline{r})$, and zero attention to all other experts. In such an equilibrium, a low-quality type refrains from sending a cue iff

$$q_s > t\frac{1}{P+1}\left[d\underline{\alpha}p\left(s_{\underline{\alpha}}^*\left(\frac{1}{t}\right), \frac{1}{t}\right) - c\left(s_{\underline{\alpha}}^*\left(\frac{1}{t}\right)\right)\right]. \tag{14}$$

Exactly P high-quality types send a cue iff

$$t\frac{1}{P+1}\left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right)\right)\right]<q_S$$
$$<t\frac{1}{P}\left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right)\right)\right] \tag{15}$$

The fact that $s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right)$ is a high-quality type's best reply implies that

$$d\bar{\alpha}p\left(s_{\underline{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\underline{\alpha}}^{*}\left(\frac{1}{t}\right)\right)<d\bar{\alpha}p\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right)\right). \tag{16}$$

By (16), (15) implies (14). Hence, if (15) is satisfied, the postulated equilibrium is incentive compatible for all experts. By (16), there exists a nonempty range of q_S such that (15) is satisfied.

Because only high-quality types send cues, an expert's cue communication decision reveals his type, so the DM need not assimilate the cues. By the proof of Claim A4.3, the DM's preferred attention allocation is to communicate with t high- quality types. She is indifferent between the P high-quality types who send cues to her. Thus, randomizing between all experts who send her a cue, and devoting zero attention to all experts who do not, is incentive compatible for the DM. Hence, the postulated FRE exists if (15) holds.

The FRE is such that all $N_{\bar{\alpha}}$ high-quality types send cues in equilibrium (but, if there were $N_{\bar{\alpha}} + 1$ high-quality types, the last one would not enter) when q_S satisfies

$$t\frac{1}{N_{\bar{\alpha}}+1}\left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^{*}\left(\frac{1}{t}\right)\right)\right]<q_S$$

$$< t\frac{1}{N_{\bar{\alpha}}}\left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right)\right)\right] \tag{17}$$

The left-hand side of (17) gives the expected utility from entry in the presence of $N_{\bar{\alpha}}$ high-quality types for a (hypothetical) $(N_{\bar{\alpha}}+1)$th high-quality type. The expected utility from entry in the presence of $N_{\bar{\alpha}}$ high-quality types is strictly smaller for a low-quality type. Thus, denoting this expected utility by $\underline{q_S}$, we have

$$\underline{q_S} < t\frac{1}{N_{\bar{\alpha}}+1}\left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right)\right)\right].$$

There exists a FRE such that all $N_{\bar{\alpha}}$ high-quality types send cues in equilibrium (but no low-quality type) when q_S satisfies:

$$\underline{q_S} < q_S < t\frac{1}{N_{\bar{\alpha}}}\left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right)\right)\right]. \tag{18}$$

The FRE is such that exactly t high-quality types send cues in equilibrium (but no low-quality type) when q_S satisfies

$$t\frac{1}{t+1}\left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right)\right)\right] < q_S < \left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right)\right)\right]$$

Thus, the FRE in which t or more high-quality types (but no low-quality type) send cues to the DM exist iff $q_S > \underline{q_S}$ and $q_S < \left[d\bar{\alpha}p\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right)\right)\right] \equiv \overline{q_S}$. The DM's expected utility, in any of these equilibria, is given by $U_R^* = \bar{x}\bar{\alpha}tp\left(s_{\bar{\alpha}}^*\left(\frac{1}{t}\right),\frac{1}{t}\right)$, which is the same decision payoff as she obtains in the perfect information case.

Claim A4.5 When q_S falls below $\underline{q_S}$, low-quality experts also approach the receiver. She must either accept a lower expected decision payoff or intensify her search for high-quality senders. In either case, her expected utility is strictly lower than when $q_S \in \left(\underline{q_S},\overline{q_S}\right)$.

Proof of Claim A4.5 We first show that when q_S falls below $\underline{q_S}$, there exist only equilibria that make the DM strictly worse off than when $q_S \in \left(\underline{q_S},\overline{q_S}\right)$.

When q_S falls below $\underline{q_S}$, (18) is violated. Thus, in any equilibrium with cue communication, at least one low-quality type sends a cue (and all high-quality types). In such an equilibrium, the DM either (i) opens zero cues but randomly chooses to communicate with t experts, or (ii) opens at least one cue. We show that both of these may be consistent with equilibrium play. We show this in the context of an equilibrium in which exactly one low-quality type sends a cue.

If the DM plays strategy (i), the equilibrium must satisfy

$$\frac{t}{N_{\overline{\alpha}}+2}\left[s\underline{\alpha}p\left(x^*_{\underline{\alpha}}\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(x^*_{\underline{\alpha}}\left(\frac{1}{t}\right)\right)\right]<\mathrm{q_S}$$
$$<\frac{t}{N_{\overline{\alpha}}+1}\left[s\underline{\alpha}p\left(x^*_{\underline{\alpha}}\left(\frac{1}{t}\right),\frac{1}{t}\right)-c\left(x^*_{\underline{\alpha}}\left(\frac{1}{t}\right)\right)\right]$$

where we use the fact that the DM will devote the same amount of attention to every expert with whom she communicates (as the experts' types are their private information). We denote by $\mathrm{U_R^{ran}}(\mathrm{N}_{\overline{\alpha}},1,\mathrm{t})$ the DM's ex ante utility in this randomization equilibrium where $N_{\overline{\alpha}}$ high-quality types and one low-quality type send cues to the DM who chooses t experts among them randomly. We have

$$U_R^{ran}(N_{\overline{\alpha}},1,t)=\overline{x}\mu(N_{\overline{\alpha}},1,t)\left[\underline{\alpha}p\left(s^*_{\underline{\alpha}}\left(\frac{1}{t}\right),\frac{1}{t}\right)+(t-1)\overline{\alpha}p\left(s^*_{\overline{\alpha}}\left(\frac{1}{t}\right),\frac{1}{t}\right)\right]$$
$$+\overline{x}\overline{\alpha}\big(1-\mu(N_{\overline{\alpha}},1,t)\big)tp\left(s^*_{\overline{\alpha}}\left(\frac{1}{t}\right),\frac{1}{t}\right)$$

where $\mu(N_{\overline{\alpha}},1,t)$is the probability that the (only) low-quality type is among the t experts that the DM randomly picks from the $N_{\overline{\alpha}}+1$ available experts. Because $\mu(N_{\overline{\alpha}},1,t)>, U_R^{ran}(N_{\overline{\alpha}},1,t)<U_R^*=\overline{x}\overline{\alpha}tp\left(s^*_{\overline{\alpha}}\left(\frac{1}{t}\right),\frac{1}{t}\right)$.

If the DM instead plays strategy (ii), and if she commits to opening exactly one cue, her expected utility satisfies

$$U_R^{cue}(N_{\overline{\alpha}},1,t)\geq -q_R+\frac{1}{N_{\overline{\alpha}}+1}\overline{x}\overline{\alpha}tp\left(x^*_{\overline{\alpha}}\left(\frac{1}{t}\right),\frac{1}{t}\right)$$

$$+\left(\frac{N_{\overline{\alpha}}}{N_{\overline{\alpha}}+1}\right)\left(\overline{x}\overline{\alpha}p\left(s_{\overline{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)+U_R^{ran}(N_{\overline{\alpha}}-1,1,t-1)\right)$$

With probability $\frac{1}{N_{\overline{\alpha}}+1}$, the DM opens the cue sent by the (only) low-quality type, in which case she communicates with the t high-quality types and gets her preferred attention allocation. With probability $\frac{N_{\overline{\alpha}}}{N_{\overline{\alpha}}+1}$, the cue was sent by a high-quality type, so the DM communicates with this expert and randomly picks $(t-1)$ others. In this case, her ex ante expected decision utility is greater than or equal to $\overline{x}\overline{\alpha}p\left(s_{\overline{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)+U_R^{ran}(N_{\overline{\alpha}}-1,1,t-1)$(where the inequality is strict if the DM chooses to treat the identified high-quality type preferentially, at the expense of dropping one expert of unknown type). Because the DM does not obtain her preferred attention allocation with probability one, $U_R^{cue}(N_{\overline{\alpha}},1)<U_R^{*}$

We now show that both (i) and (ii) may, depending on the parameter values, be preferred by the DM:

In expectation, choosing t experts at random among $N_{\overline{\alpha}}+1$ is strictly worse than observing one high-quality type and choosing the other $(t-1)$ at random, i.e.,

$$\frac{1}{N_{\overline{\alpha}}+1}\overline{x}\overline{\alpha}tp\left(x_{\overline{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)+\frac{N_{\overline{\alpha}}}{N_{\overline{\alpha}}+1}\left(\overline{x}\overline{\alpha}p\left(s_{\overline{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)+U_R^{ran}(N_{\overline{\alpha}}-1,1,t-1)\right)-U_R^{ran}(N_{\overline{\alpha}},1,t)>0 \tag{19}$$

Equation (19) implies that there exists a non-empty range of q_R such that $U_R^{cue}(N_{\overline{\alpha}},1,t)>U_R^{ran}(N_{\overline{\alpha}},1,t)$, given by

$$\frac{1}{N_{\overline{\alpha}}+1}\overline{x}\overline{\alpha}tp\left(x_{\overline{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)+\frac{N_{\overline{\alpha}}}{N_{\overline{\alpha}}+1}\left(\overline{x}\overline{\alpha}p\left(s_{\overline{\alpha}}^{*}\left(\frac{1}{t}\right),\frac{1}{t}\right)+U_R^{ran}(N_{\overline{\alpha}}-1,1,t-1)\right)-U_R^{ran}(N_{\overline{\alpha}},1,t)\geq q_R. \tag{20}$$

We now note that when the DM prefers a strategy in which she commits to opening exactly one cue to a strategy in which she randomizes, the DM also prefers a strategy in which she opens at least one cue to randomization. Thus, whenever (20) is satisfied, the DM opens at least one cue. Because the left-hand side of (20) is finite, the reverse is true for large enough q_R, i.e., $U_R^{cue}(N_{\bar{\alpha}}, 1, t) < U_R^{ran}(N_{\bar{\alpha}}, 1, t)$.

Claim A4.6 When $q_S \to 0$, the number of low-quality experts who approach the DM becomes so large that she ceases to screen experts for quality. The DM's expected decision payoff is strictly smaller than that obtained in any equilibrium where cue communication takes place.

Proof of Claim A4.6 Suppose that $N_{\underline{\alpha}}$ is infinite. As $q_S \to 0$, the number of low-quality types that wish to send a cue to the DM, n, approaches infinity, which implies that $\frac{N_{\underline{\alpha}}}{N_{\bar{\alpha}}+n} \to 1$ and $\frac{N_{\bar{\alpha}}}{N_{\bar{\alpha}}+n} \to 0$. Thus, $U_R^{cue}(N_{\bar{\alpha}}, n, t) \to \bar{x}\underline{\alpha}tp\left(x_{\underline{\alpha}}^*\left(\frac{1}{t}\right), \frac{1}{t}\right) - q_R$. Because $U_R^{ran}(N_{\bar{\alpha}}, n, t) \to \bar{x}\underline{\alpha}tp\left(x_{\underline{\alpha}}^*\left(\frac{1}{t}\right), \frac{1}{t}\right)$, the DM strictly prefers not to open any cue in the limit. In an equilibrium in which she randomizes, she is worse off, the larger the share of low-quality experts. Thus, she is clearly worse off than in any equilibrium where she reads cues.

Claim A4.7 The decrease in the DM's expected utility is monotonic for $q_S < \underline{q_S}$.

Proof of Claim A4.7 When the DM randomly chooses experts, this follows directly from the fact that $\frac{N_{\underline{\alpha}}}{N_{\bar{\alpha}}+n}$ and $\frac{N_{\bar{\alpha}}}{N_{\bar{\alpha}}+n}$ change monotonically with the number of entering low-quality types, n. So long as the DM opens cues, the value of opening one cue is decreasing with $\frac{N_{\underline{\alpha}}}{N_{\bar{\alpha}}+n}$, which is monotonically increasing with n.

B.5 Proof of Proposition 3

Claim A5.1 If the DM assimilates one cue, she continues to assimilate cues until she identifies the relevant topic.

Proof of Claim A5.1 Suppose that the DM has launched k topics. Consider the first cue that the DM assimilates. She incurs the cost q_R. With probability $1/k$, she finds the relevant topic, and devotes all of her attention to this topic. With probability $(k-1)/k$ she does not find the relevant topic. In this situation, the DM always assimilates a second cue: the cost of assimilation is still q_R; however, the probability that she identifies the relevant topic is $1/(k-1) > 1/k$. Hence, if the DM assimilated the first cue, she assimilates a second cue in the event that the first topic is irrelevant. Repeating this argument yields that, if she assimilates one cue, she continues to assimilate cues until she finds the relevant topic.

Claim A5.2 There exists a number of cues (topics) k^* such that, if the DM obtains more than k^* topics, then she assimilates no cue. Instead, she randomly chooses t topics that she divides her attention between (equally) in the deliberation stage.

Proof of Claim A5.2 Consider the DM's expected utility if she assimilates cues. If the first cue that she assimilates is the relevant one, which happens with probability $1/k$, then her expected payoff is $(\pi - q_R)$, where $\pi = \alpha\bar{x} + (1-\alpha)\underline{x} - p(0,1)(1-\alpha)\underline{x}$. That is, her expected payoff is the expected payoff from the action, adjusted for the fact that she may find out, through her information acquisition on the relevant topic, that the product quality is low (and opt out). When she devotes all of her attention to this topic, and the expert devotes zero effort, the probability that she obtains such information is given by $p(0,1)$ in the event that the product quality indeed is low, which happens with probability $(1-\alpha)$. If the first cue that she assimilates is not the relevant one, which happens with probability $(k-1)/k$, then she assimilates a second cue.

If the second cue that she assimilates is the relevant one, which happens with probability $1/(k-1)$, then her expected payoff is $(\pi - 2q_R)$. If the second cue is not the relevant one, then she continues. Repeating this argument yields that her expected payoff from assimilating cues (until she finds the relevant one) is given by

$$\frac{1}{k}(\pi - q_R) + \frac{(k-1)}{k}\frac{1}{(k-1)}(\pi - 2q_R) + \frac{(k-1)}{k}\frac{(k-2)}{(k-1)}\frac{1}{(k-2)}(\pi - 3q_R) +$$

$$\dots + \frac{1}{k}(\pi - kq_R) = \frac{1}{k}\sum_{i=1}^{i=k}(\pi - iq_R) = \pi - \frac{q_R}{k}(1 + 2 + \dots + k) =$$

$$\pi - \frac{q_R}{k}\frac{k(1+k)}{2} = \pi - q_R\frac{(1+k)}{2}.$$

Because $q_R \frac{1+k}{2}$ increases in k without bond, there exists a k^*such that

$$\pi - q_R \frac{(1+k^*)}{2} > 0 > \pi - q_R \frac{\big(1+(k^*+1)\big)}{2}.$$

If the DM does not assimilate any cue, but instead randomly chooses t out of the k cues available to her, her expected utility is given by $\pi' = \alpha\bar{x} + (1-\alpha)\underline{x} - \frac{t}{k} p\left(0, \frac{1}{t}\right)(1-\alpha)\underline{x}$, since she chooses t/k out of the topics available, and hence picks the relevant topic with probability t/k. Among the t topics that she randomly chooses, she devotes $1/t$ of her attention to each of them. Because $\alpha\bar{x} + (1-\alpha)\underline{x} > 0$, we have that $\pi' > 0$. Clearly, the DM strictly prefers to randomize over assimilating cues if the expert makes more than k^* topics available. The DM prefers to randomize when her expected payoff from randomization exceeds her expected payoff from opening cues, i.e., when

$$\begin{aligned} \alpha\bar{x} + (1-\alpha)\underline{x} - \frac{t}{k} p\left(0, \frac{1}{t}\right)(1-\alpha)\underline{x} \\ > \alpha\bar{x} + (1-\alpha)\underline{x} - p(0,1)(1-\alpha)\underline{x} - q_R \frac{(1+k)}{2}. \end{aligned}$$

We know that this holds when $k > k^*$. We denote the smallest number of topics such that the DM prefers to randomize by k^{**}. Clearly, $k^{**} \leq k^*$.

Claim A5.3 The expert either launches only one topic or launches at least k^{**} topics. If q_S is small, he launches at least k^{**} topics.

Proof of Claim A5.3 If the expert launches only one topic (the relevant one), then the DM devotes all of her attention to this topic. Thus, she opts out with probability $p(0,1)(1-\alpha)$.

If he launches more than one but fewer than k^{**} topics, the DM assimilates cues until she finds the relevant topic. Then, she devotes all of her attention to this topic. Hence, she opts out with the same probability; however, the expert incurred a higher cost of making the (additional) topics available. Thus, the expert strictly prefers launching one topic to launching strictly more than one but fewer than k^{**}, topics.

If he launches at least k^{**} topics, the DM randomly chooses t out of the k^{**}topics, and devotes attention $1/t$ to each of the selected topics. In this case, she opts out with probability $\frac{t}{k} p\left(0, \frac{1}{t}\right)(1-\alpha) < p(0,1)(1-\alpha)$. Clearly, if the cost of launching a topic, q_S, is small enough, the expert strictly prefers to launch at least k^{**} topics.

Claim A5.4 When $q_S = 0$, the mandate to disclose the relevant topic has no effect on the DM's expected utility; she does not process the relevant information at all.

Proof of Claim A5.4 When $q_S \to \infty$, the number k of topics launched goes to ∞, and the probability that the DM opts out goes to $\lim_{k\to\infty}\left[\frac{t}{k}p\left(0,\frac{1}{t}\right)(1-\alpha)\right] = 0$. Hence, the mandate to disclose the relevant topic has no effect on the DM's expected utility; the expected utility is simply given by $\alpha\bar{x} + (1-\alpha)\underline{x}$, which is her expected utility in the absence of any mandate.